



Test Report

Product Name	SpectraGuardR Access Point / Sensor
Model No	SS-300-AT-C-60
FCC ID	TOR-SS300AT60

Applicant	AirTight Networks, Inc.
Address	339 N. Bernardo Avenue, Suite #200, Mountain View, California, USA

Date of Receipt	Oct. 11, 2012
Issued Date	Oct. 29, 2012
Report No.	12A193R-RFUSP32V01
Report Version	V1.0



The test results relate only to the samples tested.

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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Test Report Certification

Issued Date: Oct. 29, 2012

Report No.: 12A193R-RFUSP32V01



Product Name	SpectraGuardR Access Point / Sensor
Applicant	AirTight Networks, Inc.
Address	339 N. Bernardo Avenue, Suite #200, Mountain View, California, USA
Manufacturer	DONG GUAN G-COM COMPUTER CO., LTD.
Model No.	SS-300-AT-C-60
FCC ID.	TOR-SS300AT60
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	AirTight
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2010 ANSI C63.4: 2003; FCC KDB-789033
Test Result	Complied

The Test Results relate only to the samples tested.

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	SpectraGuardR Access Point / Sensor
Trade Name	AirTight
FCC ID.	TOR-SS300AT60
Model No.	SS-300-AT-C-60
Frequency Range	802.11a/n-20MHz: 5180-5240MHz 802.11n-40MHz: 5190-5230MHz
Number of Channels	802.11a/n-20MHz: 4, n-40MHz: 2
Data Rate	802.11a/g: 6-54Mbps, 802.11n: up to 450Mbps
Channel Control	Auto
Type of Modulation	802.11a/n:OFDM, BPSK, QPSK, 16QAM, 64QAM
Antenna type	Dipole, PIFA
Antenna Gain	Refer to the table “Antenna List”
Adapter	MFR: DVE, M/N: DSA-15P-123 US 120150 Input: AC 100-240V~50/60Hz, 0.5A Output: DC +12V, 1.25A Cable out: Non-Shielded, 1.7m

Antenna List

No.	Manufacturer	Part No.	Peak Gain	Note
1.	JOYMAX	JWX-614XRSXX-361	5dBi for 5.15~5.25GHz	External Antenna (Dipole)
2.	MAGLAYERS	MSA-3810-2G4C1-B4 MSA-3810-2G4C1-B3 MSA-3810-2G4C1-A37	3.87dBi for 5.15~5.25GHz	Internal Antenna (PIFA)

Note: The antenna of EUT is conform to FCC 15.203

802.11a/n-20MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 36:	5180 MHz	Channel 40:	5200 MHz	Channel 44:	5220 MHz	Channel 48:	5240 MHz

802.11n-40MHz Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency
Channel 38:	5190 MHz	Channel 46:	5230 MHz

Note:

1. This device is a SpectraGuardR Access Point / Sensor with a built-in two WLAN module, module 1 support 2T2R, module 2 support 3T3R technology, this report for 3T3R module.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11a is 6Mbps, 802.11n-20BW is 21.7Mbps and 802.11n-40BW are 45Mbps)
4. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) Mode 2: Transmit (802.11n-20BW 21.7Mbps)(Dipole Antenna) Mode 3: Transmit (802.11n-40BW 45Mbps)(Dipole Antenna) Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna) Mode 5: Transmit (802.11n-20BW 21.7Mbps)(PIFA Antenna) Mode 6: Transmit (802.11n-40BW 45Mbps)(PIFA Antenna)
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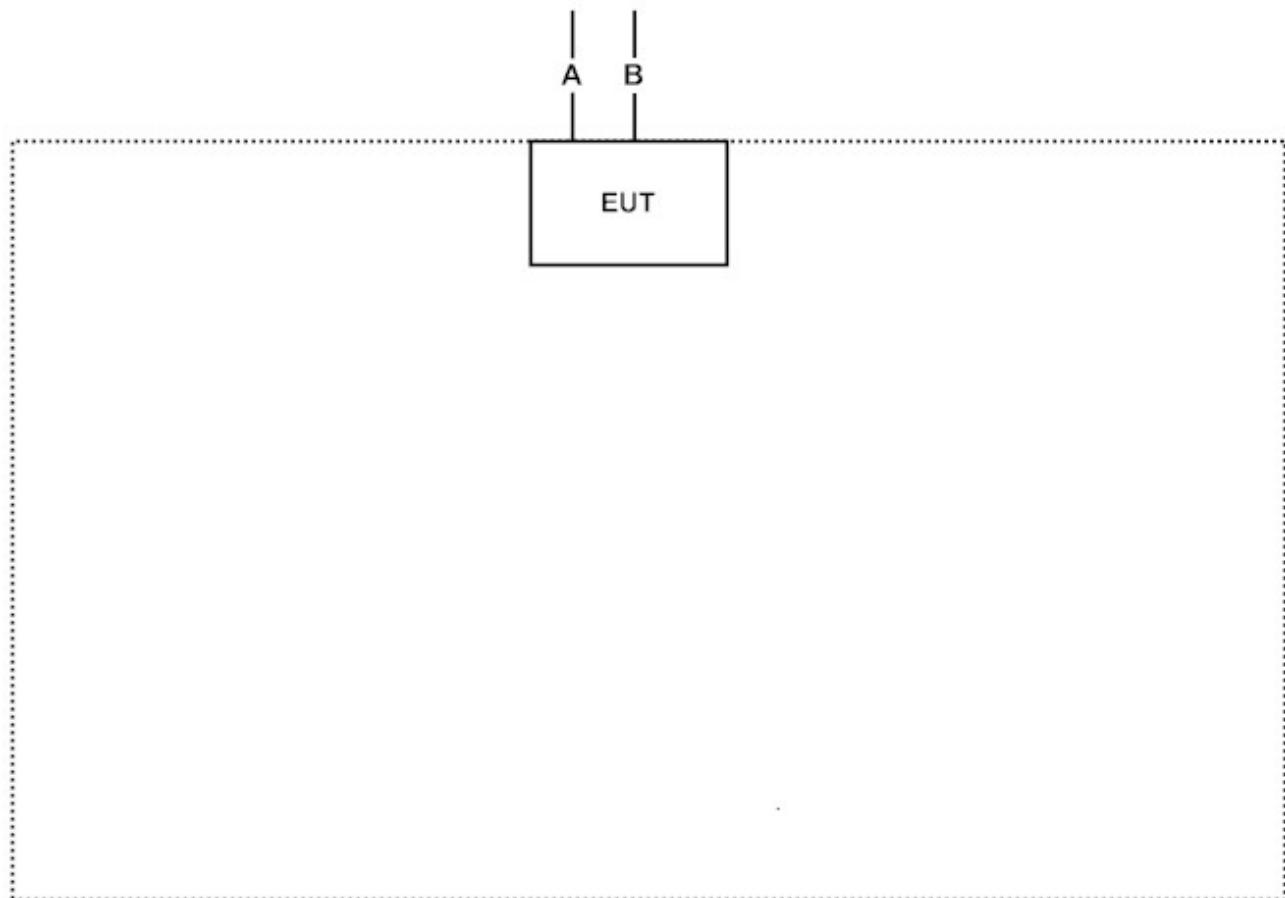
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
(1) N/A	N/A	N/A	N/A	N/A

Signal Cable Type		Signal cable Description
A	RJ-45 Cable	Non-Shielded, 2.0m
B	RJ-45 Cable	Non-Shielded, 2.0m

1.4. Configuration of tested System



1.5. EUT Exercise Software

- (1) Connect EUT and Notebook via LAN Cable
- (2) Execute “Art2. V2.3 exe” program on the Notebook
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Start the continuous transmission.
- (5) Remove Notebook, Setup the EUT as shown in Section 1.4
- (6) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>

The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation
Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin-Kou Shiang, Taipei,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

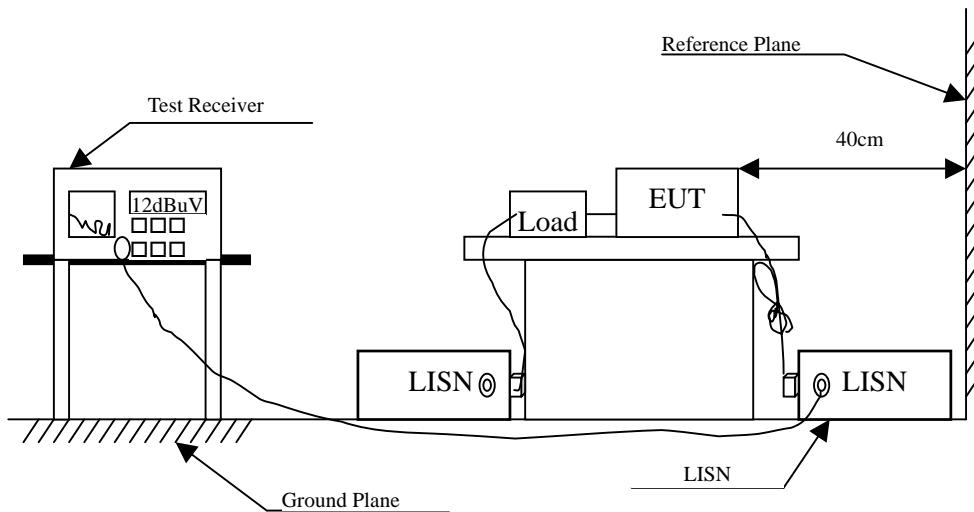
2.1. Test Equipment

Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2012	
X Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2012	Peripherals
X LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2012	EUT
DC LISN	Schwarzbeck	8226 / 176	Mar, 2012	EUT
X Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2012	
No.1 Shielded Room				

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked by “X” are used to measure the final test results.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

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.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : SpectraGuardR Access Point / Sensor
 Test Item : Conducted Emission Test
 Power Line : Line 1
 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	dB	dBuV
LINE 1					
Quasi-Peak					
0.318	9.830	38.630	48.460	-12.740	61.200
0.392	9.830	33.580	43.410	-15.676	59.086
0.853	9.830	32.490	42.320	-13.680	56.000
1.408	9.830	30.750	40.580	-15.420	56.000
2.502	9.841	31.690	41.531	-14.469	56.000
5.974	9.891	34.680	44.571	-15.429	60.000
Average					
0.318	9.830	20.320	30.150	-21.050	51.200
0.392	9.830	21.410	31.240	-17.846	49.086
0.853	9.830	17.500	27.330	-18.670	46.000
1.408	9.830	14.660	24.490	-21.510	46.000
2.502	9.841	15.970	25.811	-20.189	46.000
5.974	9.891	21.550	31.441	-18.559	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : SpectraGuardR Access Point / Sensor
 Test Item : Conducted Emission Test
 Power Line : Line 2
 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	dB	dBuV

LINE 2**Quasi-Peak**

0.396	9.840	32.980	42.820	-16.151	58.971
0.642	9.840	31.370	41.210	-14.790	56.000
0.873	9.850	30.900	40.750	-15.250	56.000
1.166	9.850	31.220	41.070	-14.930	56.000
1.642	9.860	30.070	39.930	-16.070	56.000
5.982	9.921	35.380	45.301	-14.699	60.000

Average

0.396	9.840	23.140	32.980	-15.991	48.971
0.642	9.840	19.170	29.010	-16.990	46.000
0.873	9.850	17.190	27.040	-18.960	46.000
1.166	9.850	15.240	25.090	-20.910	46.000
1.642	9.860	15.060	24.920	-21.080	46.000
5.982	9.921	21.960	31.881	-18.119	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : SpectraGuardR Access Point / Sensor
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 6: Transmit (802.11n-40BW 45Mbps)(PIFA Antenna) (5190MHz)

Frequency MHz	Correct Factor	Reading dB	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.248	9.830	30.750	40.580	-22.620	63.200
0.306	9.830	37.460	47.290	-14.253	61.543
0.666	9.830	30.080	39.910	-16.090	56.000
1.103	9.830	29.670	39.500	-16.500	56.000
2.537	9.850	30.640	40.490	-15.510	56.000
5.607	9.886	34.310	44.196	-15.804	60.000
Average					
0.248	9.830	21.410	31.240	-21.960	53.200
0.306	9.830	26.910	36.740	-14.803	51.543
0.666	9.830	19.090	28.920	-17.080	46.000
1.103	9.830	14.990	24.820	-21.180	46.000
2.537	9.850	13.860	23.710	-22.290	46.000
5.607	9.886	19.860	29.746	-20.254	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : SpectraGuardR Access Point / Sensor
 Test Item : Conducted Emission Test
 Power Line : Line 2
 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	dB	dBuV

LINE 2**Quasi-Peak**

0.318	9.840	36.370	46.210	-14.990	61.200
0.654	9.840	31.610	41.450	-14.550	56.000
1.076	9.850	30.170	40.020	-15.980	56.000
1.646	9.860	29.750	39.610	-16.390	56.000
2.380	9.860	30.610	40.470	-15.530	56.000
6.509	9.929	33.610	43.539	-16.461	60.000

Average

0.318	9.840	23.610	33.450	-17.750	51.200
0.654	9.840	18.850	28.690	-17.310	46.000
1.076	9.850	14.260	24.110	-21.890	46.000
1.646	9.860	14.260	24.120	-21.880	46.000
2.380	9.860	15.310	25.170	-20.830	46.000
6.509	9.929	19.790	29.719	-20.281	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Maximum conducted output power

3.1. Test Equipment

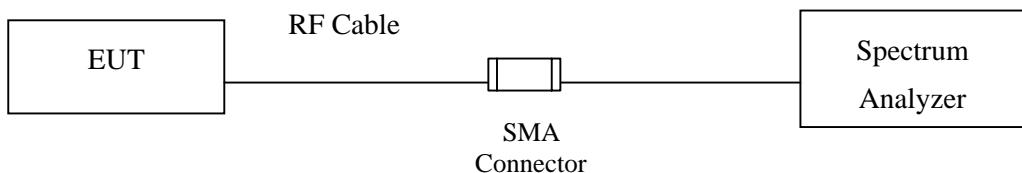
Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X Power Meter	Anritsu	ML2495A/6K00003357	May, 2012
X Power Sensor	Anritsu	MA2411B/0738448	Jun, 2012
X Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

Note:

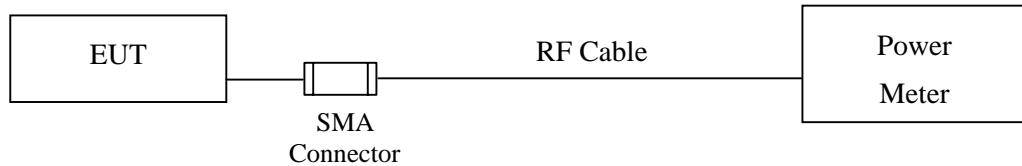
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

26dBc Occupied Bandwidth



Conduction Power Measurement



3.3. Limits

- (1) For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (2) For the band 5.25-5.35 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1W or $17 \text{ dBm} + 10\log B$, where B is the 26-dB emission bandwidth in MHz. If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

3.4. Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater than 6dB BW of the emission under test. Maximum conducted output power was read directly from the meter across all data rates, and across three channels within each sub-band. Special care was used to make sure that the EUT was transmitting in continuous mode. This method exceeds the limitations of FCC KDB-789033, and provides more accurate measurements.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Maximum conducted output power

Product : SpectraGuardR Access Point / Sensor
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna)

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	10.91	--	--	--	--	--	--	--	<17dBm
44	5220	11.71	10.64	10.56	10.43	10.34	10.24	10.19	10.08	<17dBm
48	5240	10.11	--	--	--	--	--	--	--	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN B

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	10.88	--	--	--	--	--	--	--	<17dBm
44	5220	11.28	11.18	11.08	11	10.97	10.84	10.72	10.61	<17dBm
48	5240	10.27	--	--	--	--	--	--	--	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN C

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	11.01	--	--	--	--	--	--	--	<17dBm
44	5220	11.71	11.64	11.54	11.43	11.32	11.2	11.05	10.95	<17dBm
48	5240	10.01	--	--	--	--	--	--	--	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

(CHAIN A+ B+C)

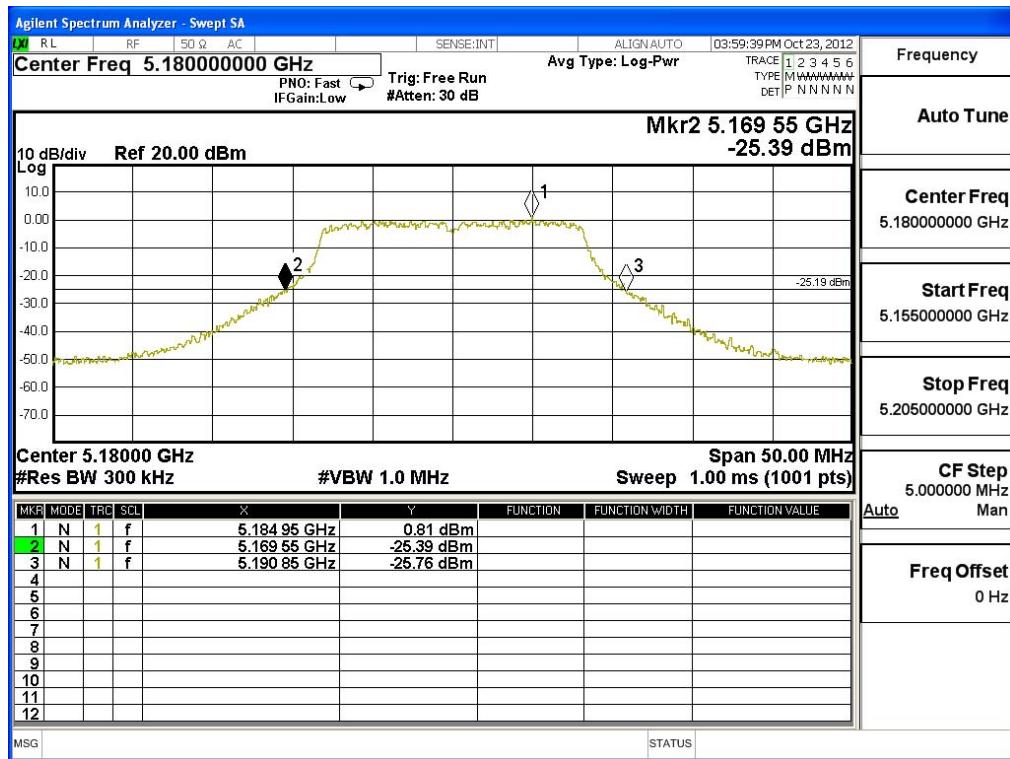
Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power	Chain B Power	Chain C Power	Output Power	Output Power Limit	
			(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
36	5180	21.300	10.91	10.88	11.01	15.70	17	17.28
44	5220	21.450	11.71	11.28	11.71	16.34	17	17.31
48	5240	22.050	10.11	10.27	10.01	14.90	17	17.43

Note:

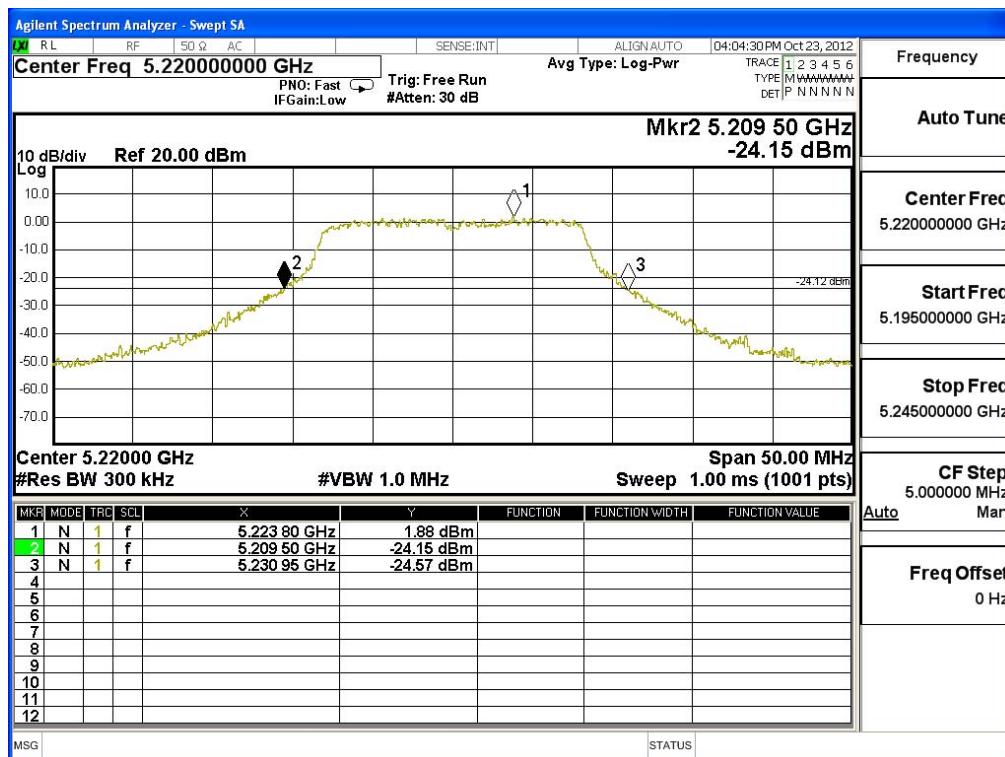
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW) + Chain C Power (mW))
3. 26 dB Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

26dBc Occupied Bandwidth:

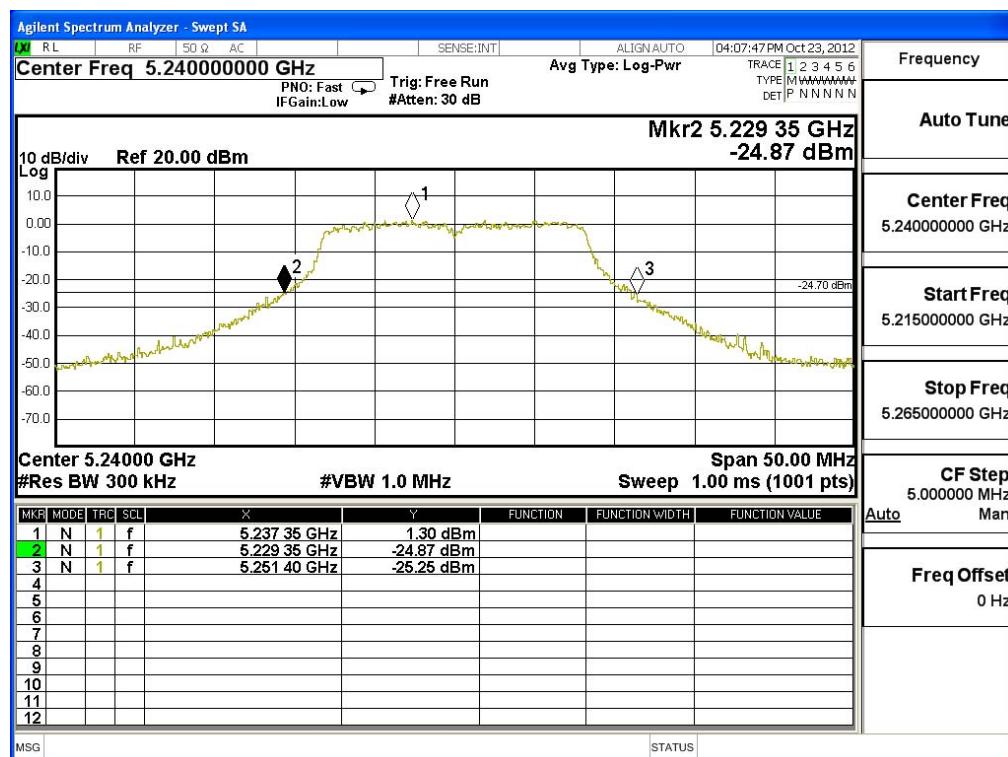
Channel 36: CHAIN A



Channel 40: CHAIN A

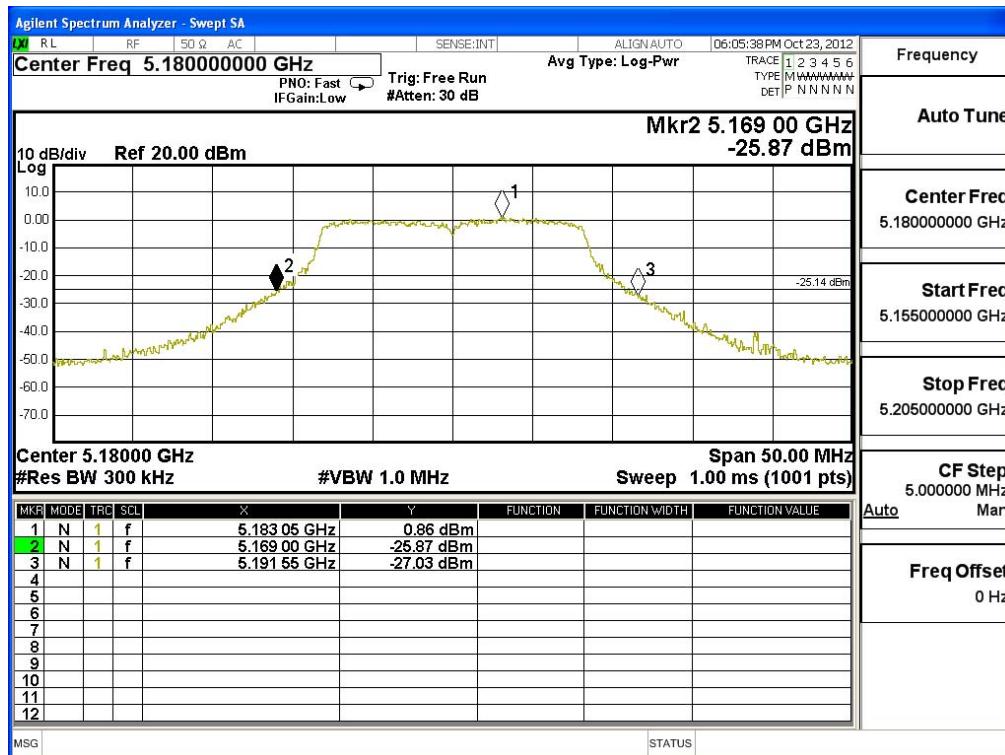


Channel 48: CHAIN A

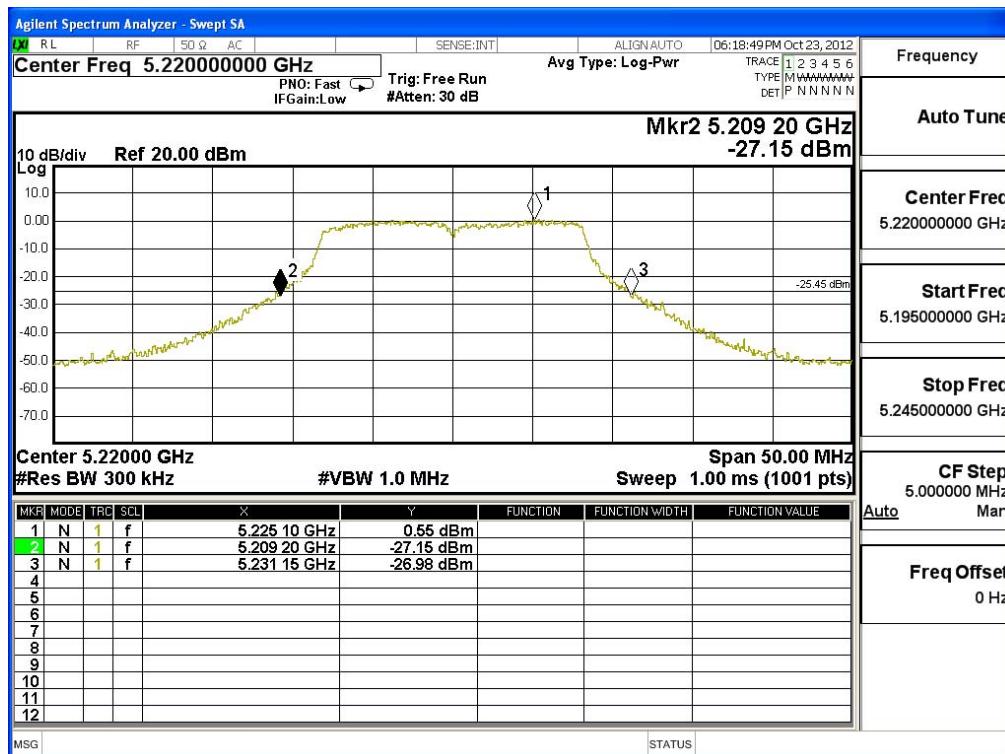


26dBc Occupied Bandwidth:

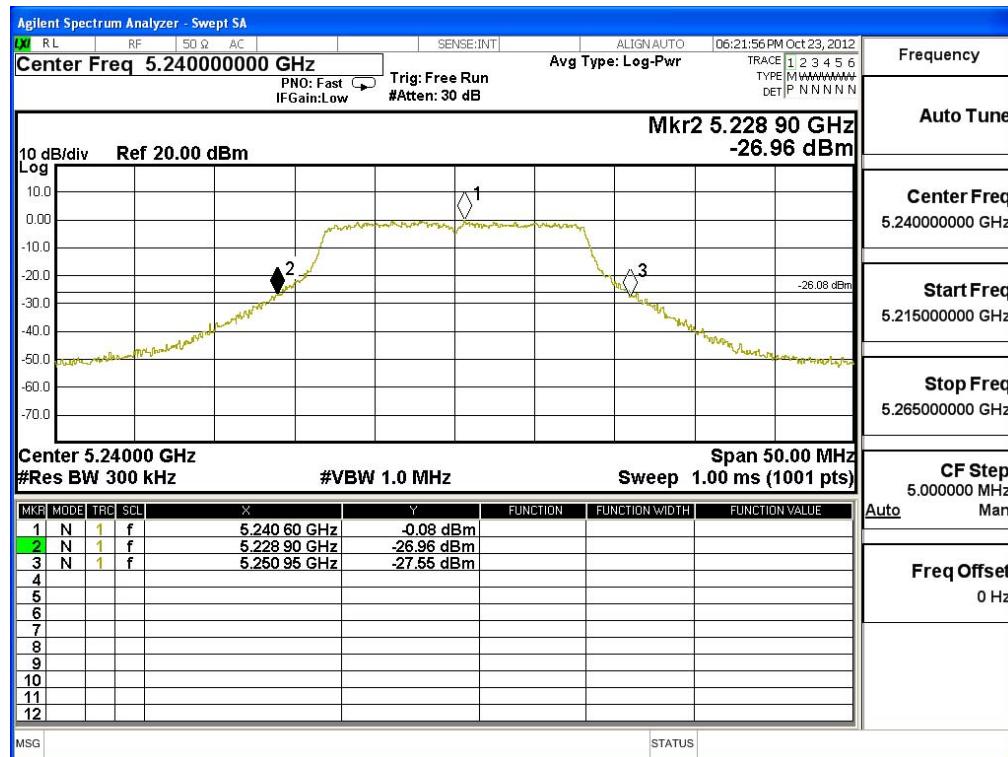
Channel 36: CHAIN B



Channel 40: CHAIN B

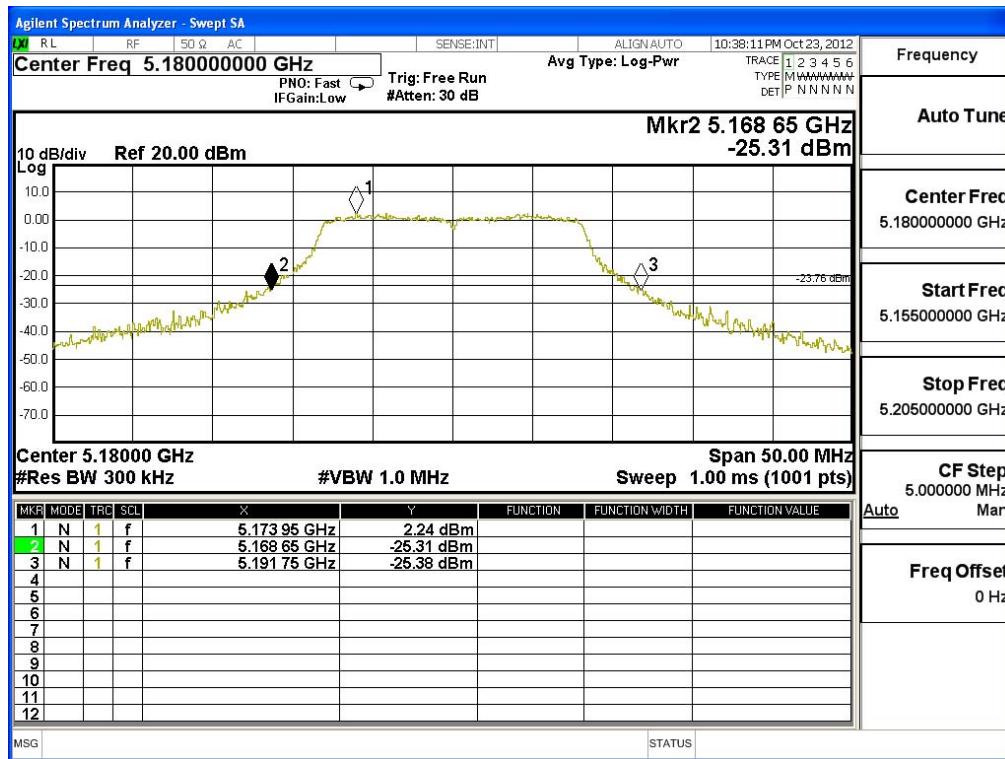


Channel 48: CHAIN B

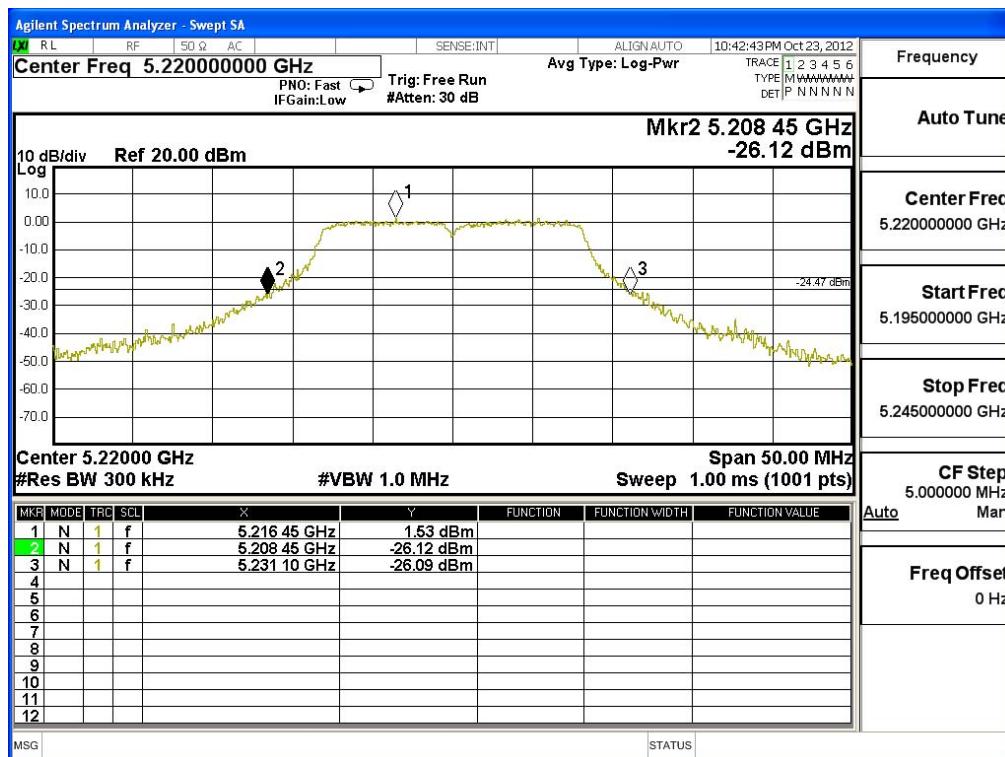


26dBc Occupied Bandwidth:

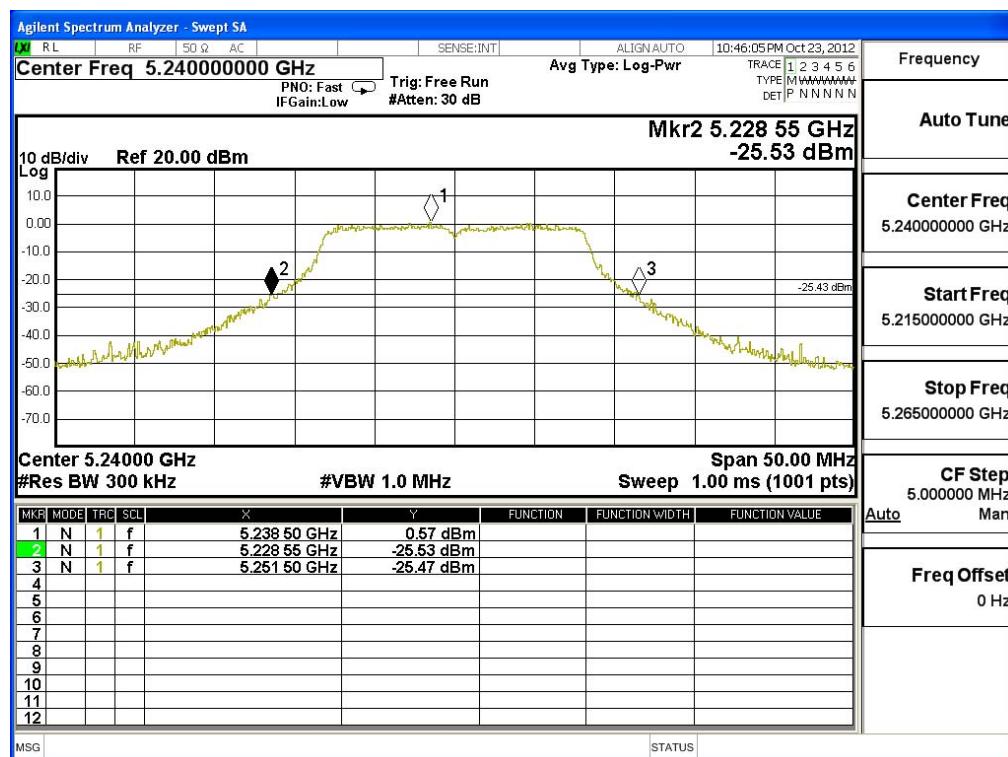
Channel 36: CHAIN C



Channel 40: CHAIN C



Channel 48: CHAIN C



Product : SpectraGuardR Access Point / Sensor
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps)(Dipole Antenna)

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
36	5180	11.41	--	--	--	--	--	--	--	<17dBm
44	5220	11.81	11.72	11.62	11.53	11.47	11.32	11.28	11.15	<17dBm
48	5240	10.63	--	--	--	--	--	--	--	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN B

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
36	5180	11.01	--	--	--	--	--	--	--	<17dBm
44	5220	11.3	11.25	11.13	11.05	10.95	10.83	10.76	10.64	<17dBm
48	5240	10.01	--	--	--	--	--	--	--	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN C

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
36	5180	12.05	--	--	--	--	--	--	--	<17dBm
44	5220	11.61	11.54	11.43	11.38	11.26	11.13	11.03	10.95	<17dBm
48	5240	10.3	--	--	--	--	--	--	--	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

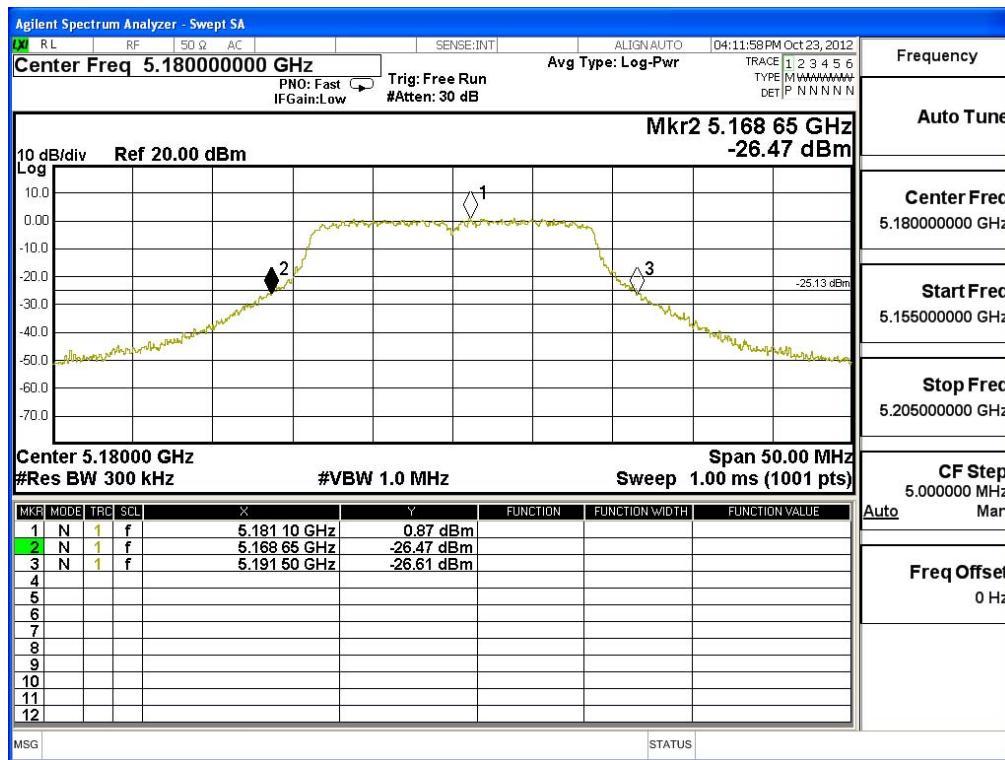
Maximum conducted output power Measurement:**(CHAIN A+ B+C)**

Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power	Chain B Power	Chain C Power	Output Power (dBm)	Output Power Limit	
			(dBm)	(dBm)	(dBm)		(dBm)	(dBm+10log(BW))
36	5180	21.800	11.41	11.01	12.05	16.28	17	17.38
44	5220	22.550	11.81	11.30	11.61	16.35	17	17.53
48	5240	22.550	10.63	10.01	10.30	15.09	17	17.53

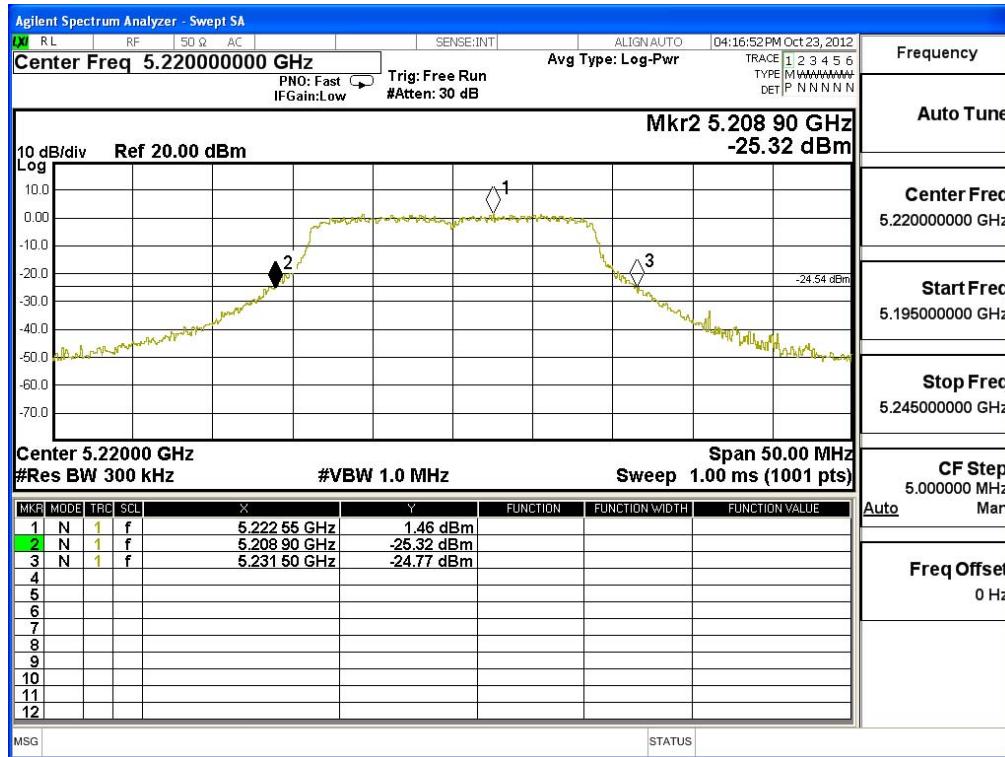
Note:

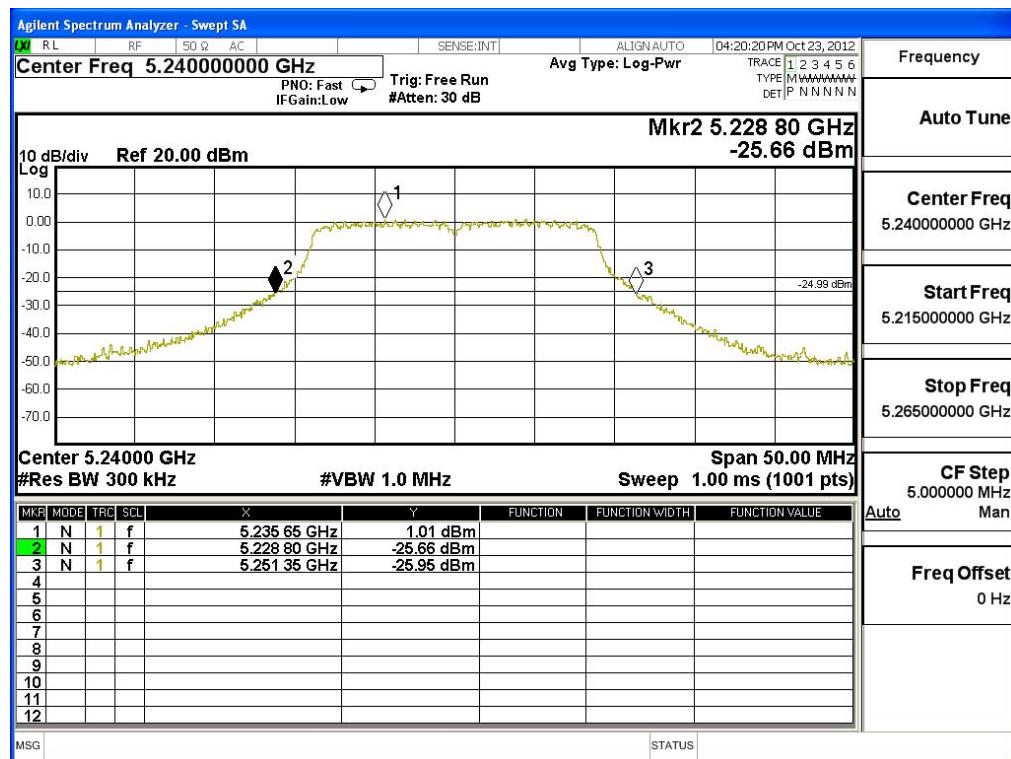
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = $10\log(\text{Chain A Power (mW)} + \text{Chain B Power (mW)} + \text{Chain C Power (mW)})$
3. 26 dB Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

26dBc Occupied Bandwidth:
Channel 36 -Chain A



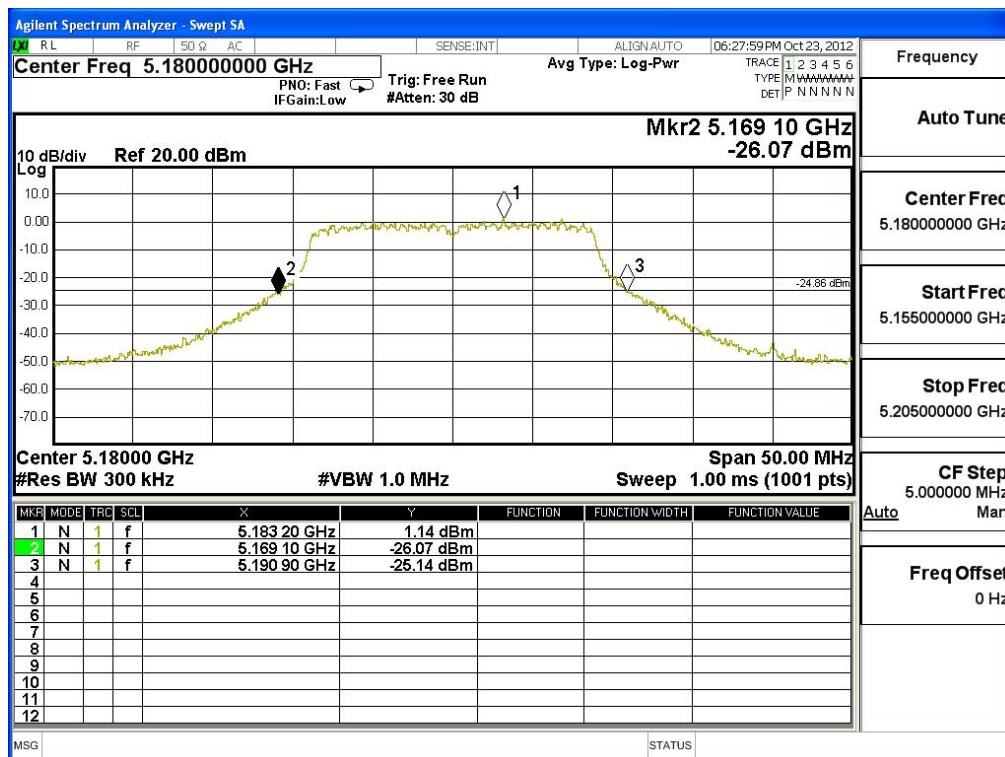
Channel 44 -Chain A



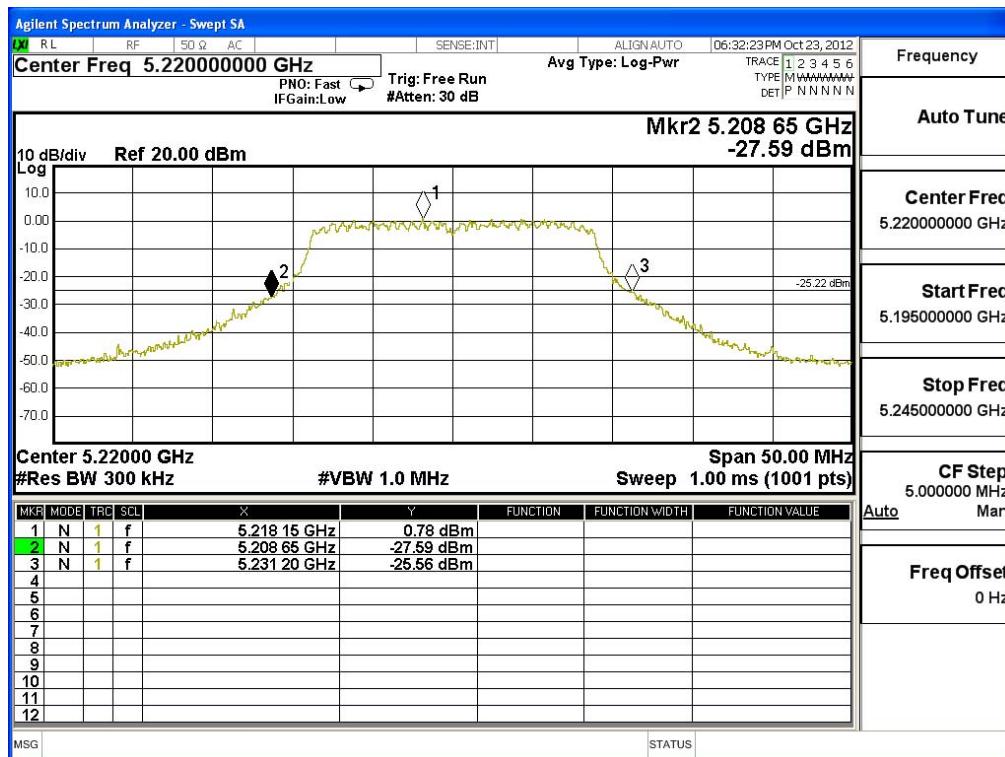
Channel 48 -Chain A


26dBc Occupied Bandwidth:

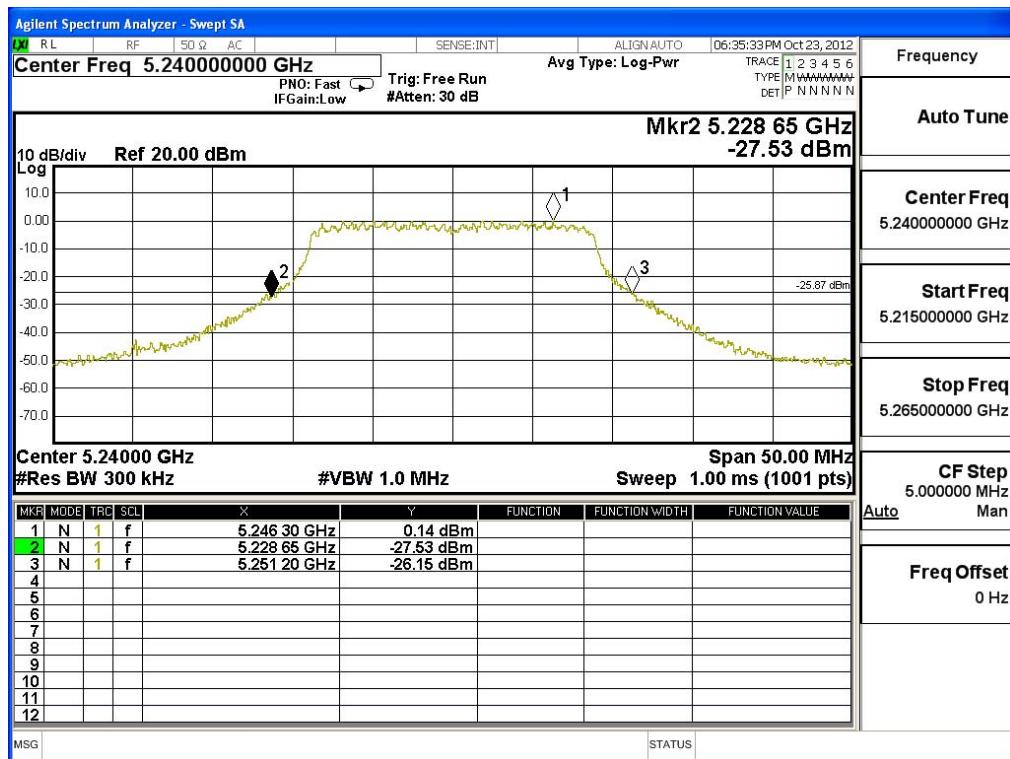
Channel 36 -Chain B



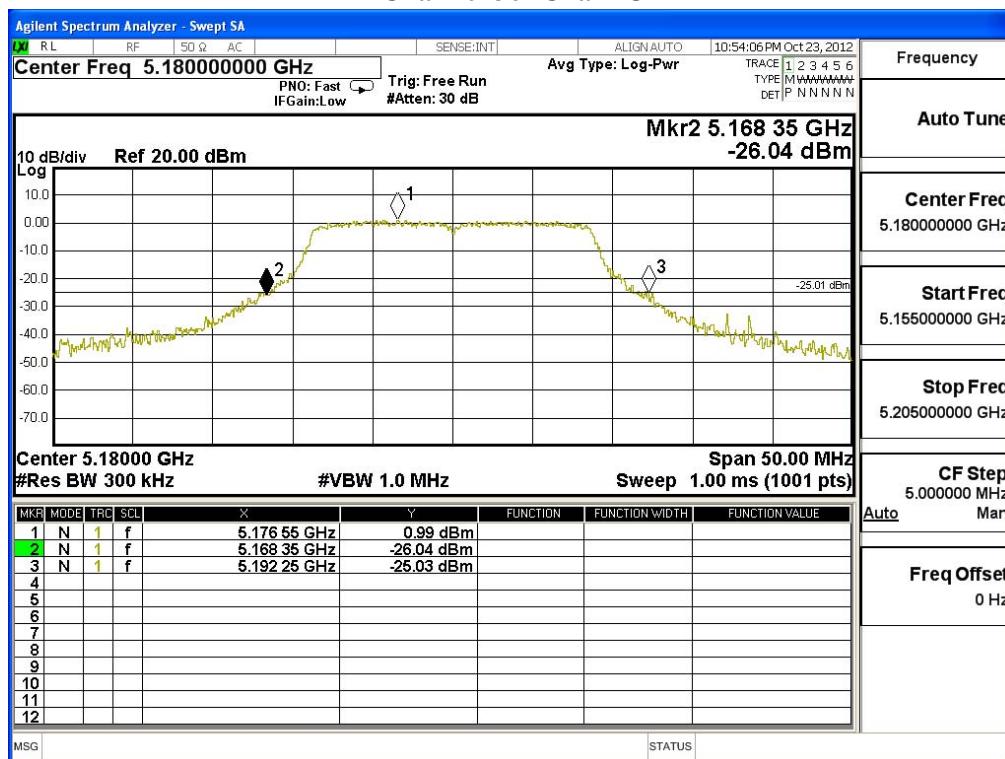
Channel 44 -Chain B



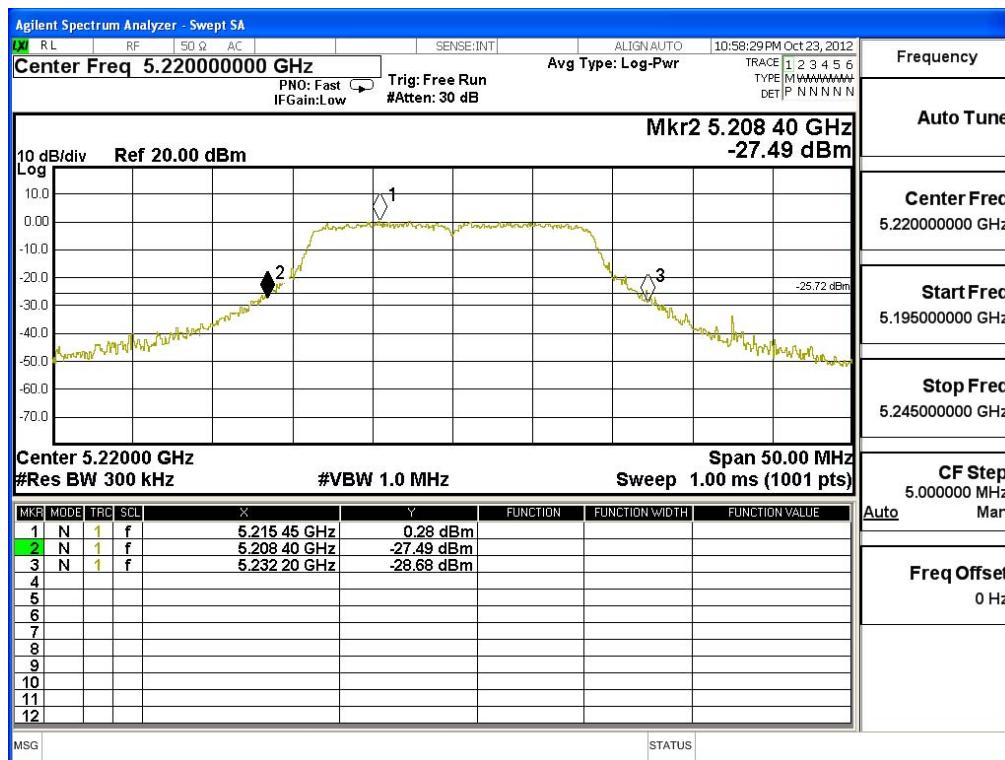
Channel 48 -Chain B



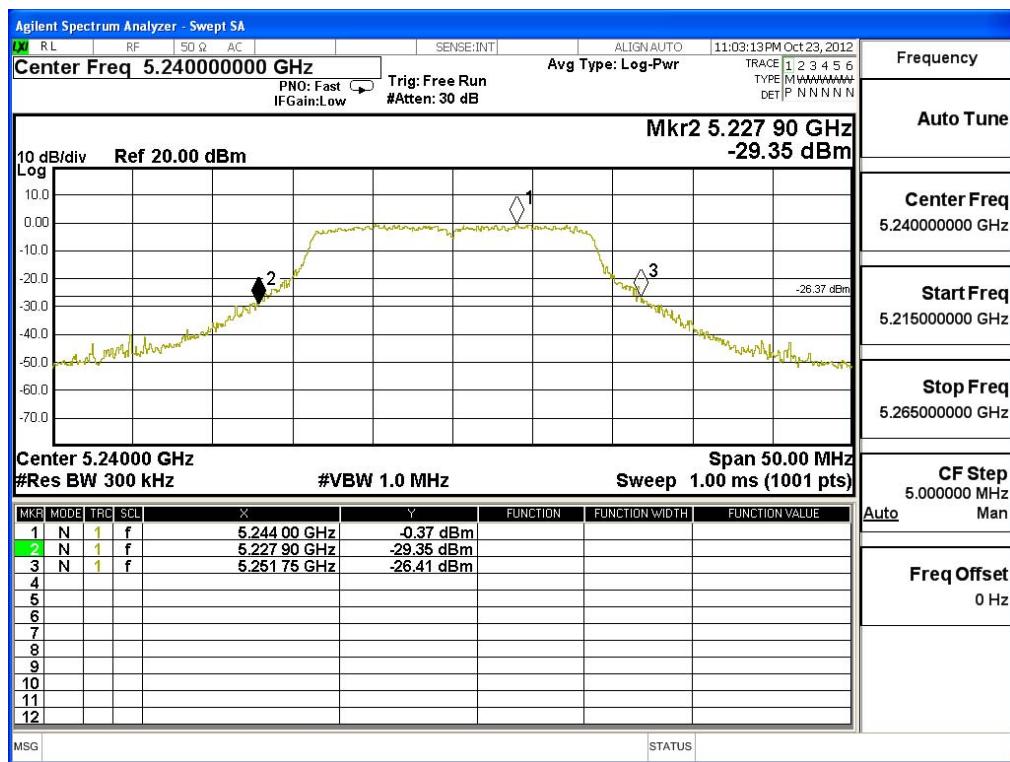
26dBc Occupied Bandwidth:
Channel 36 -Chain C



Channel 44 -Chain C



Channel 48 -Chain C



Product : SpectraGuardR Access Point / Sensor
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 3: Transmit (802.11n-40BW 45Mbps)(Dipole Antenna)

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
38	5190	10.5	--	--	--	--	--	--	--	<17dBm
46	5230	10.77	10.64	10.5	10.43	10.34	10.28	10.13	10.05	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN B

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
38	5190	9.6	--	--	--	--	--	--	--	<17dBm
46	5230	10.33	10.24	10.13	10.03	9.95	9.84	9.72	9.66	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN C

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
38	5190	10.11	--	--	--	--	--	--	--	<17dBm
46	5230	10.3	10.28	10.13	10.06	9.92	9.81	9.72	9.66	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

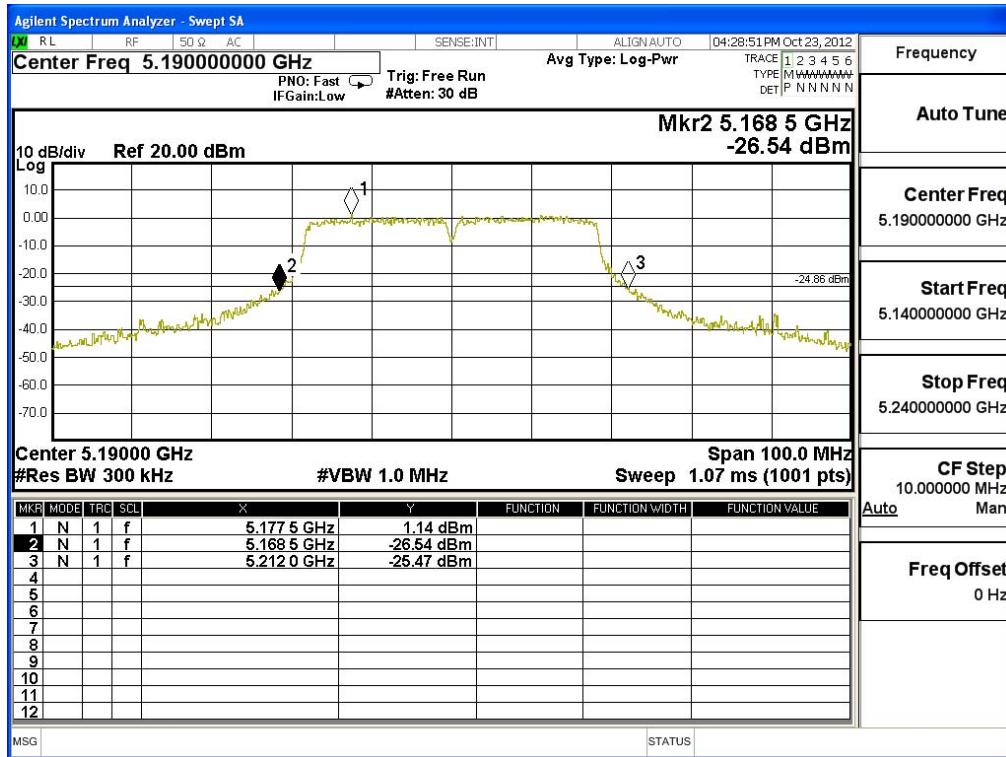
(CHAIN A+ B+C)

Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	(dBm+10log(BW))
38	5190	42.500	10.50	9.60	10.11	14.86	17	20.28
46	5230	42.900	10.77	10.33	10.30	15.24	17	20.32

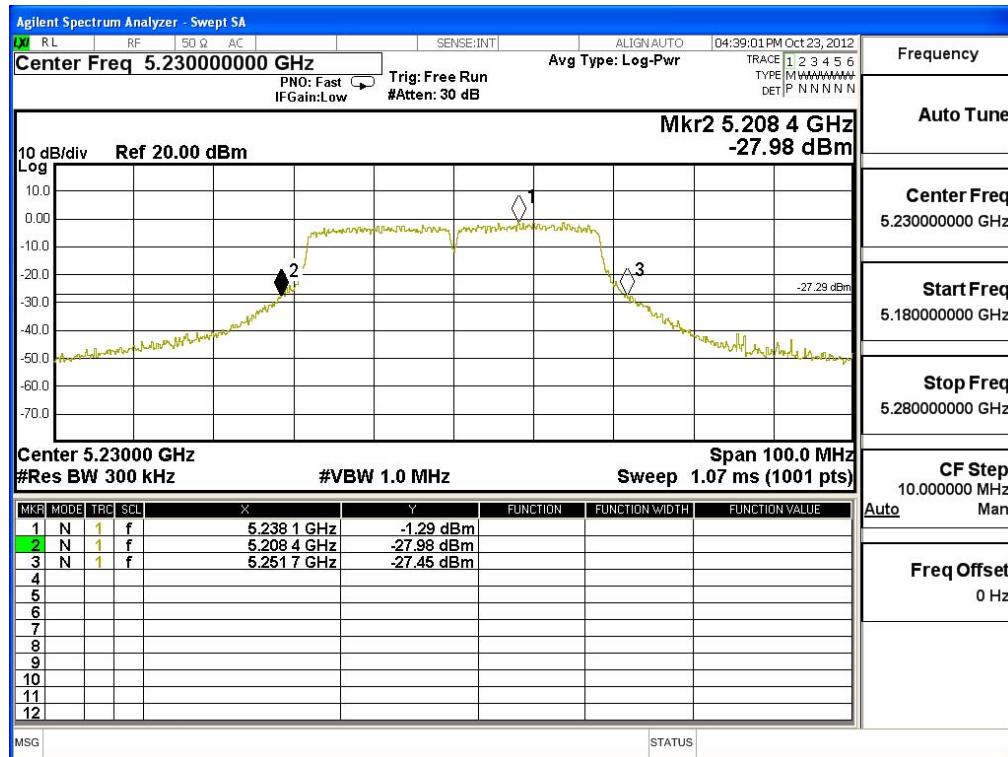
Note:

1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = $10\log(\text{Chain A Power (mW)} + \text{Chain B Power (mW)} + \text{Chain C Power (mW)})$
3. 26 dB Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

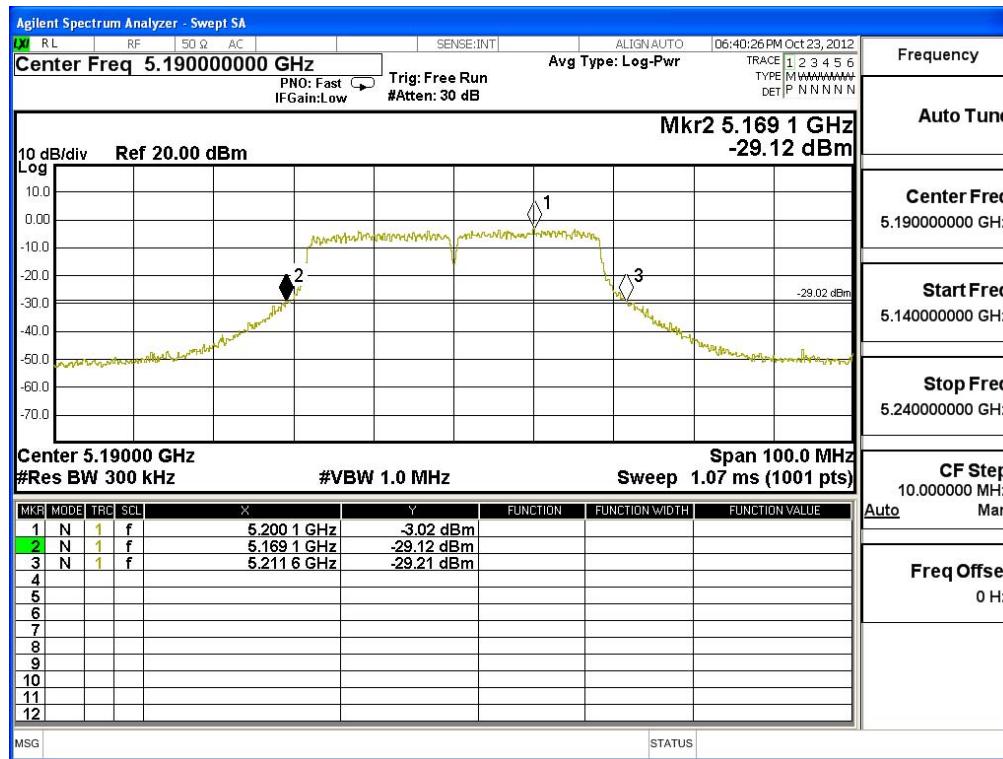
26dBc Occupied Bandwidth: Channel 38 – Chain A



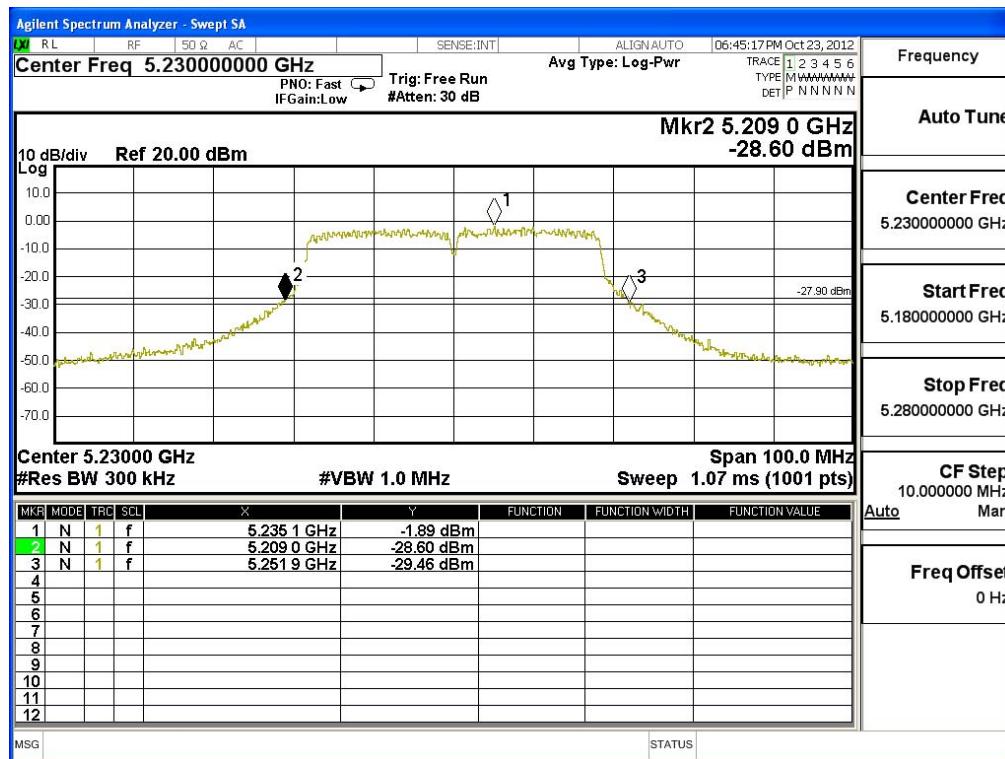
Channel 46 – Chain A



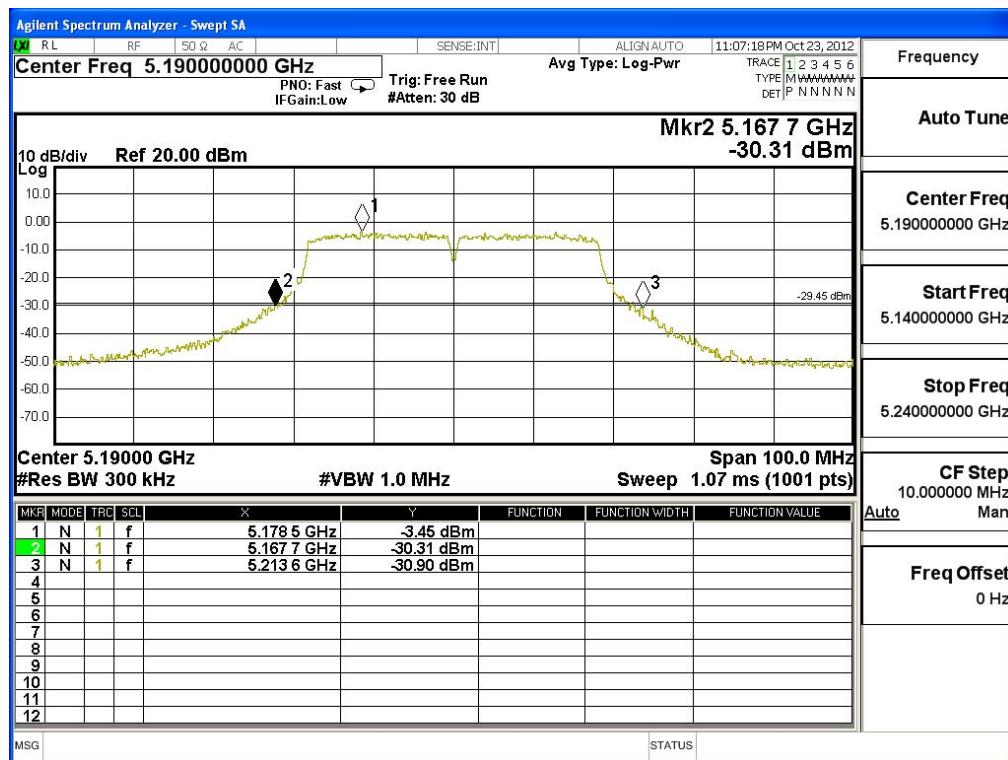
26dBc Occupied Bandwidth:
Channel 38 – Chain B



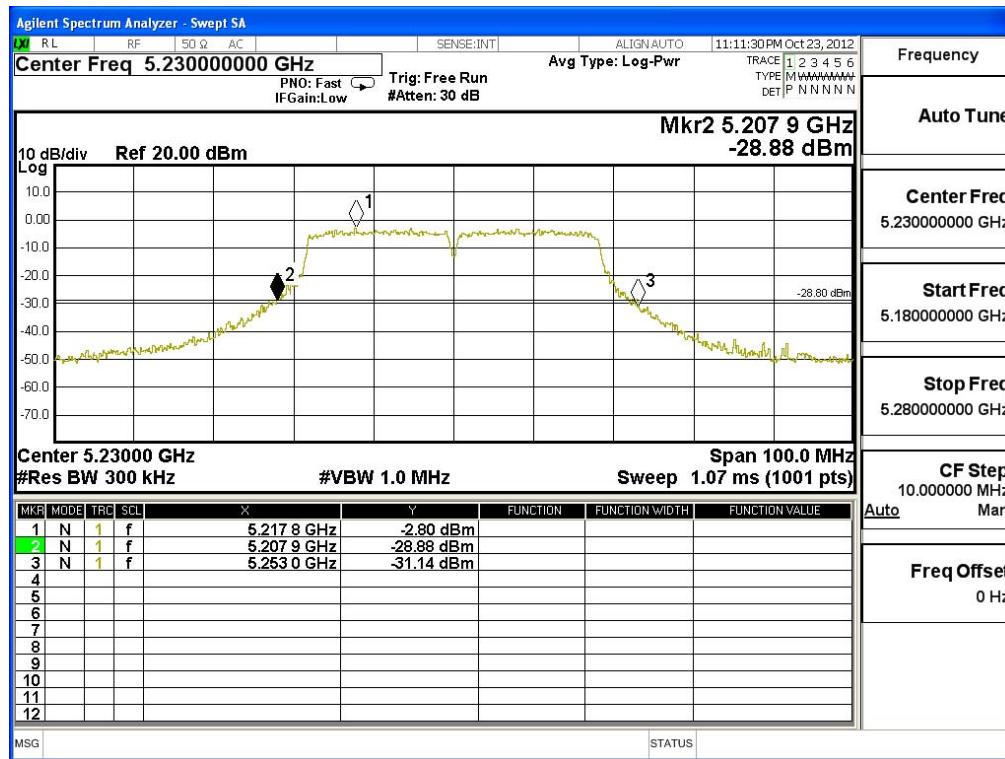
Channel 46 – Chain B



26dBc Occupied Bandwidth:
Channel 38 – Chain C



Channel 46 – Chain C



Product : SpectraGuardR Access Point / Sensor
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna)

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	11.5	--	--	--	--	--	--	--	<17dBm
44	5220	11.71	11.65	11.54	11.48	11.32	11.27	11.16	11.06	<17dBm
48	5240	11.82	--	--	--	--	--	--	--	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN B

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	11.31	--	--	--	--	--	--	--	<17dBm
44	5220	11.66	11.54	11.43	11.37	11.23	11.17	11.03	10.95	<17dBm
48	5240	11.11	--	--	--	--	--	--	--	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

CHAIN C

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	11.64	--	--	--	--	--	--	--	<17dBm
44	5220	11.71	11.62	11.52	11.47	11.33	11.27	11.15	11.03	<17dBm
48	5240	12.13	--	--	--	--	--	--	--	<17dBm

Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

(CHAIN A+ B+C)

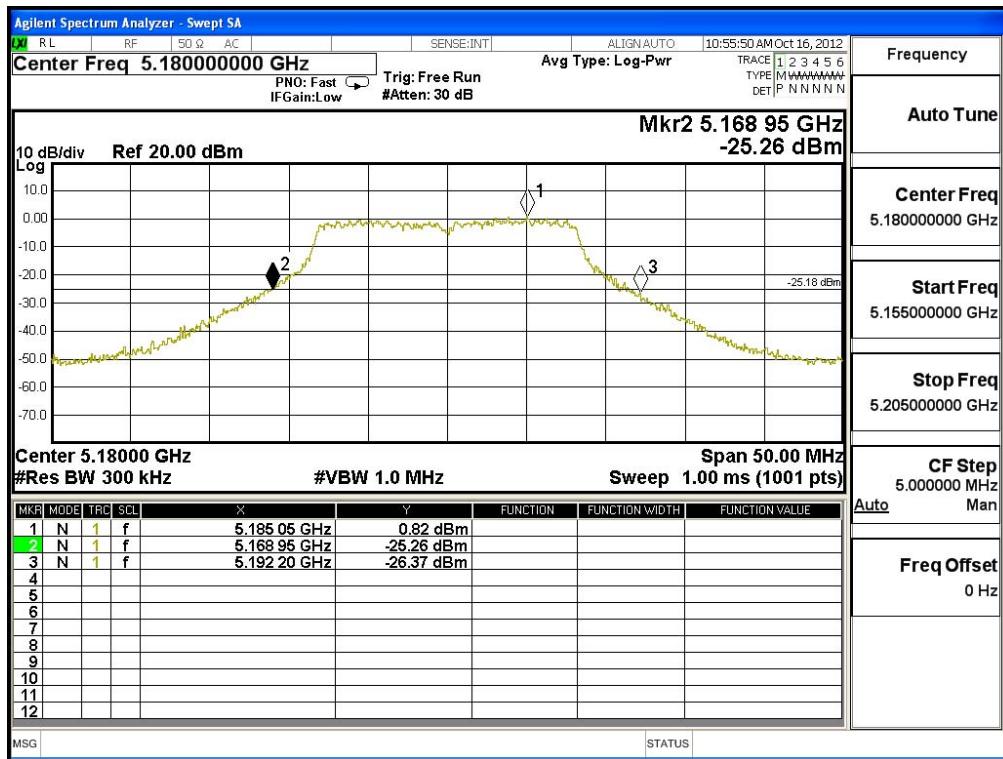
Channel Number	Frequency (MHz)	26dB Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
			(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
36	5180	23.250	11.50	11.31	11.64	16.26	17	17.66
44	5220	23.850	11.71	11.66	11.71	16.46	17	17.77
48	5240	23.650	11.82	11.11	12.13	16.48	17	17.74

Note:

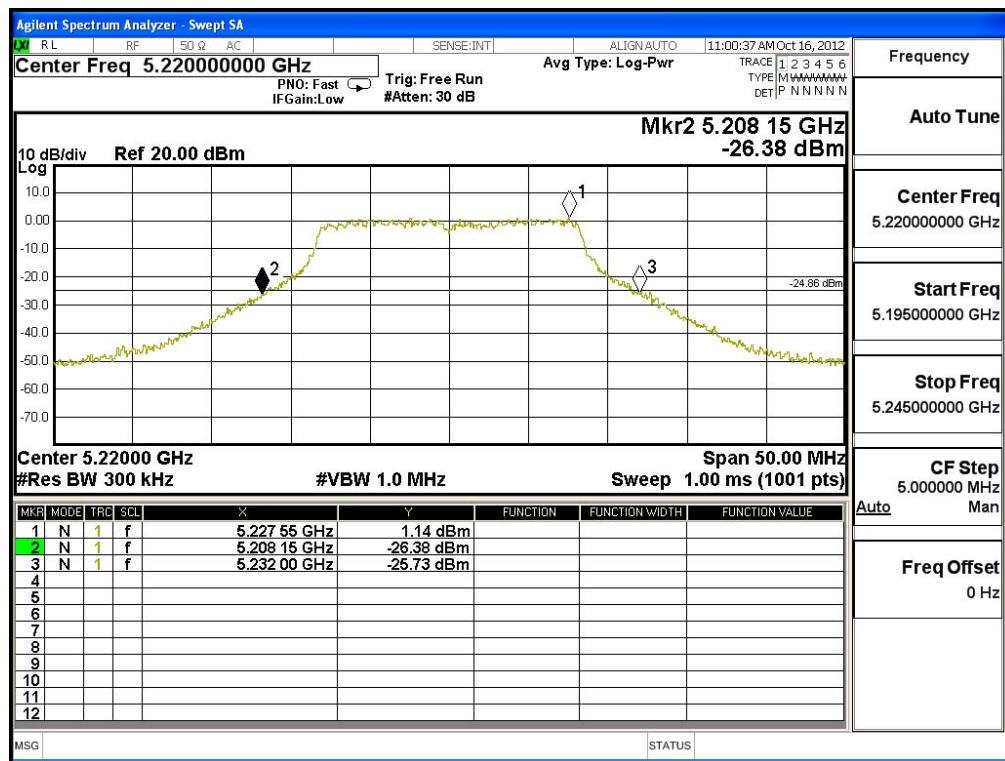
4. Power Output Value =Reading value on average power meter + cable loss
5. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW) + Chain C Power (mW))
6. 26 dB Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

26dBc Occupied Bandwidth:

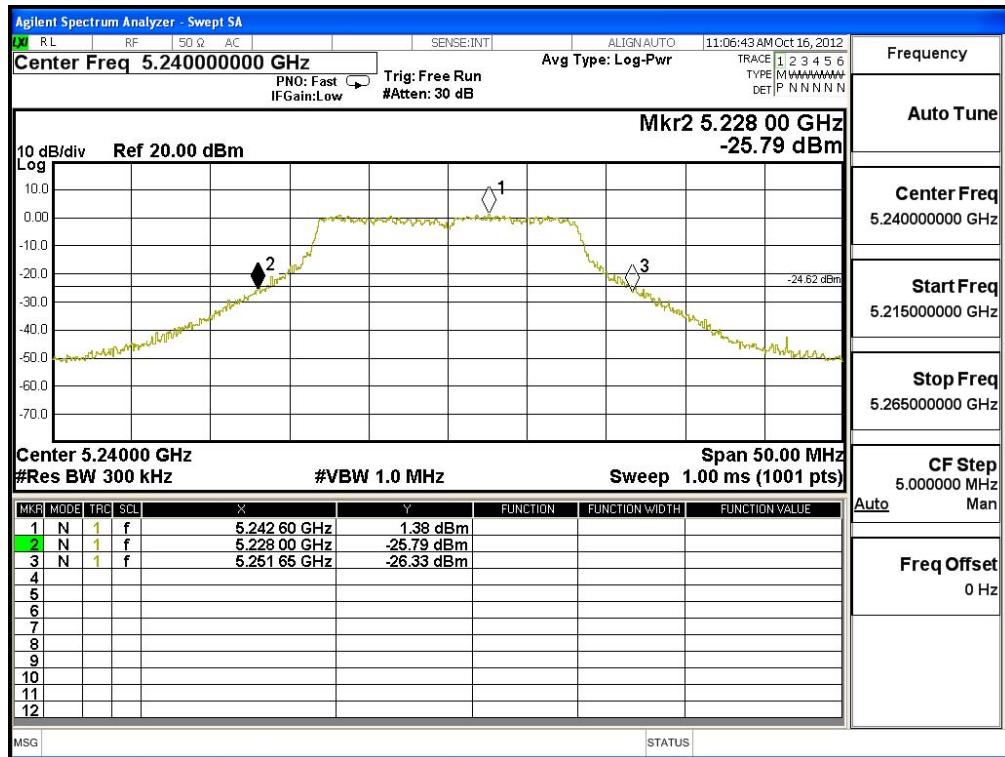
Channel 36: CHAIN A



Channel 40: CHAIN A

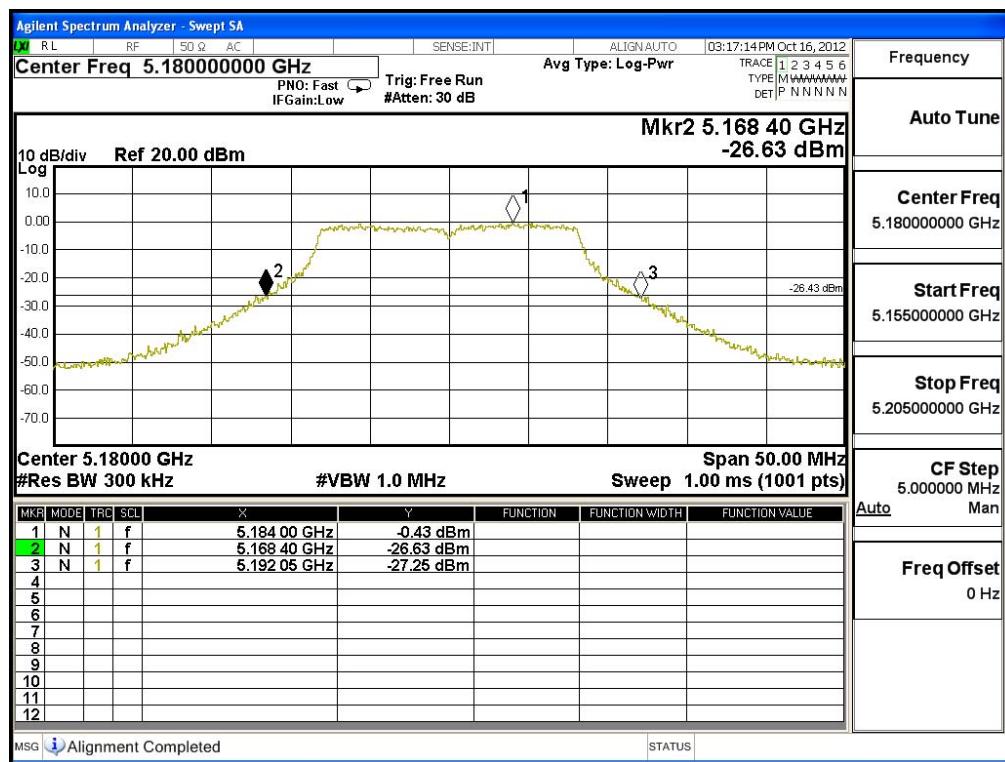


Channel 48: CHAIN A

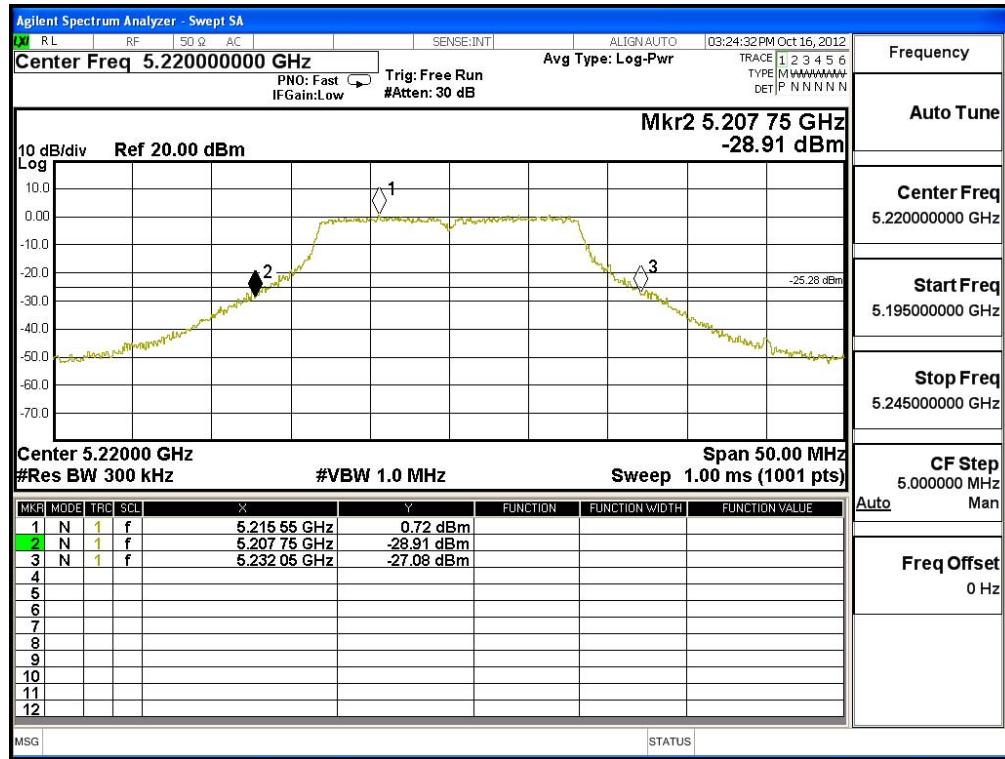


26dBc Occupied Bandwidth:

Channel 36: CHAIN B



Channel 40: CHAIN B



Channel 48: CHAIN B
