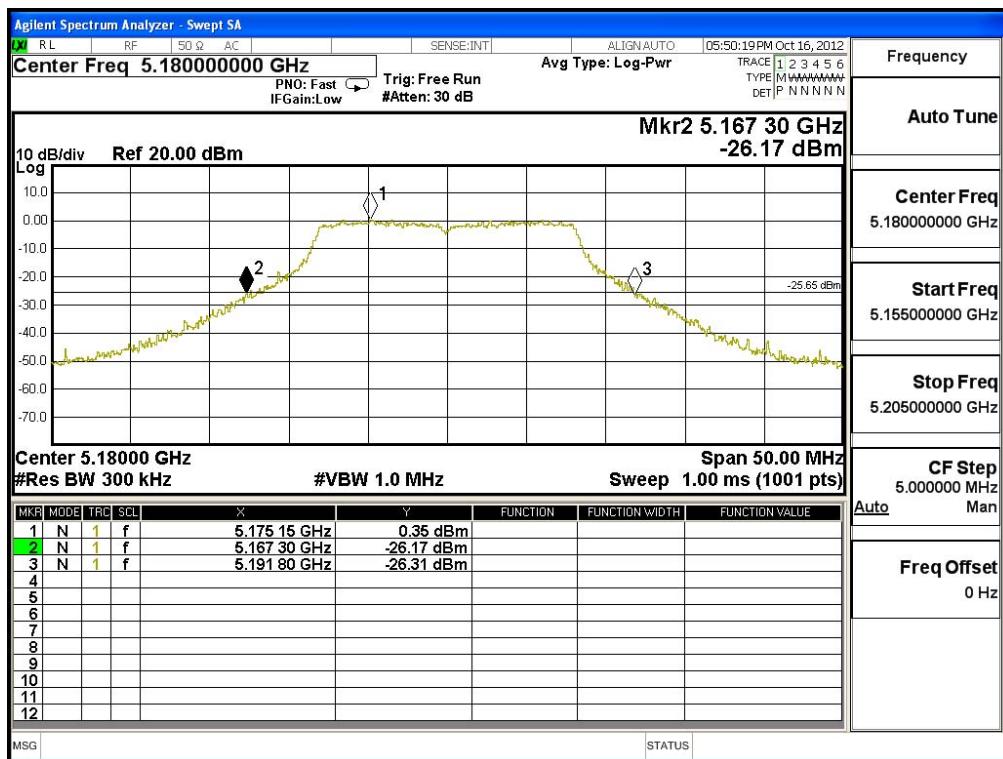
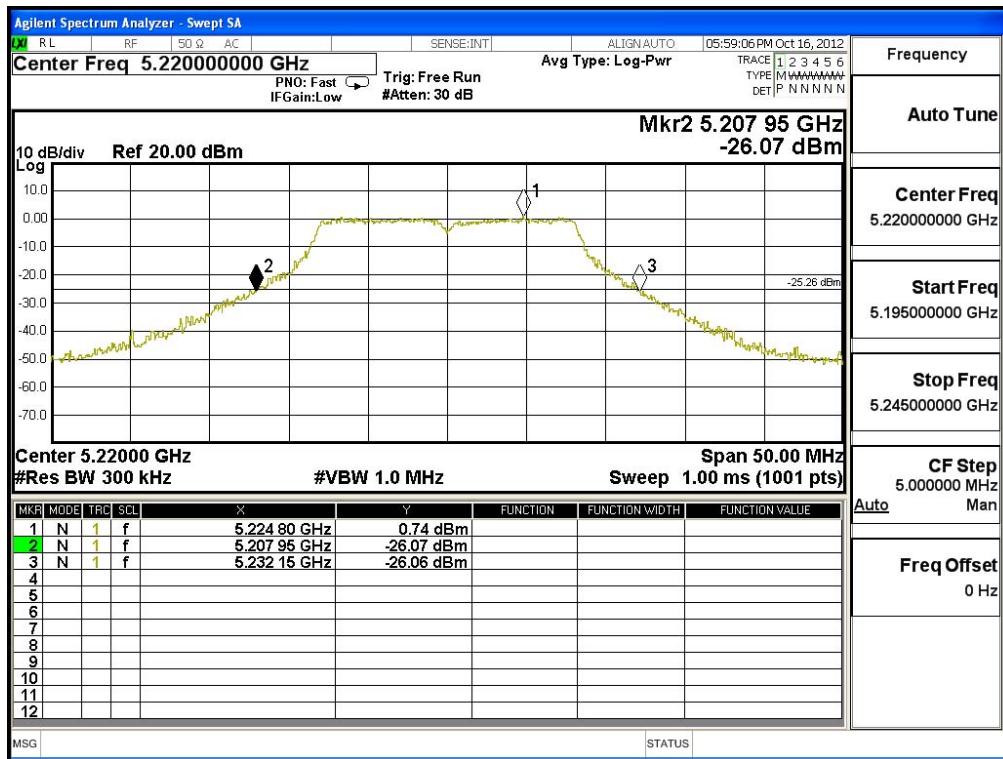


## 26dBc Occupied Bandwidth:

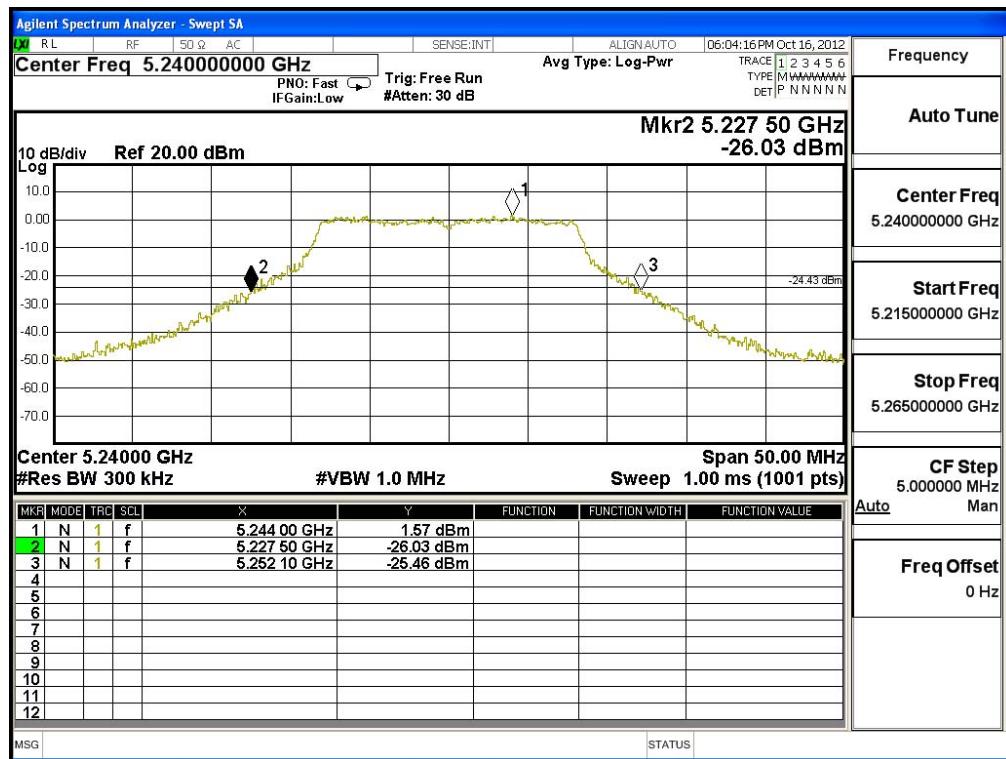
## Channel 36: CHAIN C



## 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 5: Transmit (802.11n-20BW 21.7Mbps)(PIFA 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	10.88	--	--	--	--	--	--	--	<17dBm
44	5220	11.4	11.35	11.24	11.16	11.06	10.94	10.82	10.73	<17dBm
48	5240	11.74	--	--	--	--	--	--	--	<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	11.1	--	--	--	--	--	--	--	<17dBm
44	5220	11.12	11.06	10.96	10.81	10.73	10.61	10.55	10.44	<17dBm
48	5240	11.01	--	--	--	--	--	--	--	<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	11.93	--	--	--	--	--	--	--	<17dBm
44	5220	11.96	11.85	11.73	11.64	11.53	11.47	11.36	11.28	<17dBm
48	5240	11.81	--	--	--	--	--	--	--	<17dBm

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

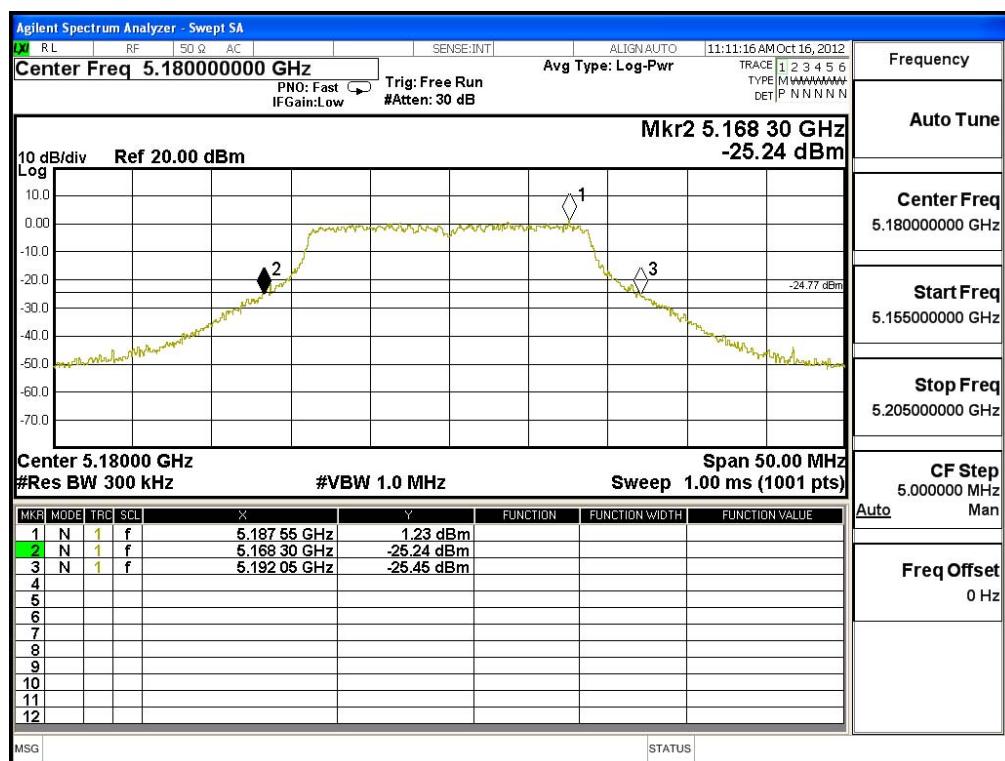
**Maximum conducted output power Measurement:**
**(CHAIN A+ B+C)**

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	23.750	10.88	11.10	11.93	16.10	17	17.76
44	5220	23.500	11.40	11.12	11.96	16.28	17	17.71
48	5240	24.350	11.74	11.01	11.81	16.31	17	17.86

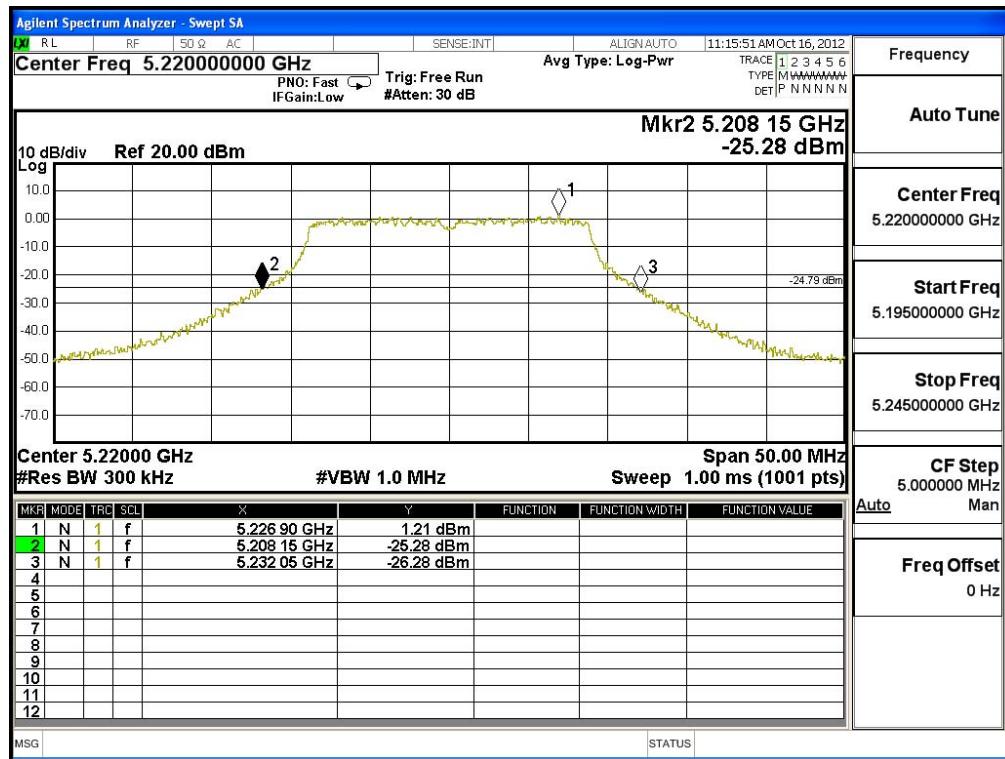
Note:

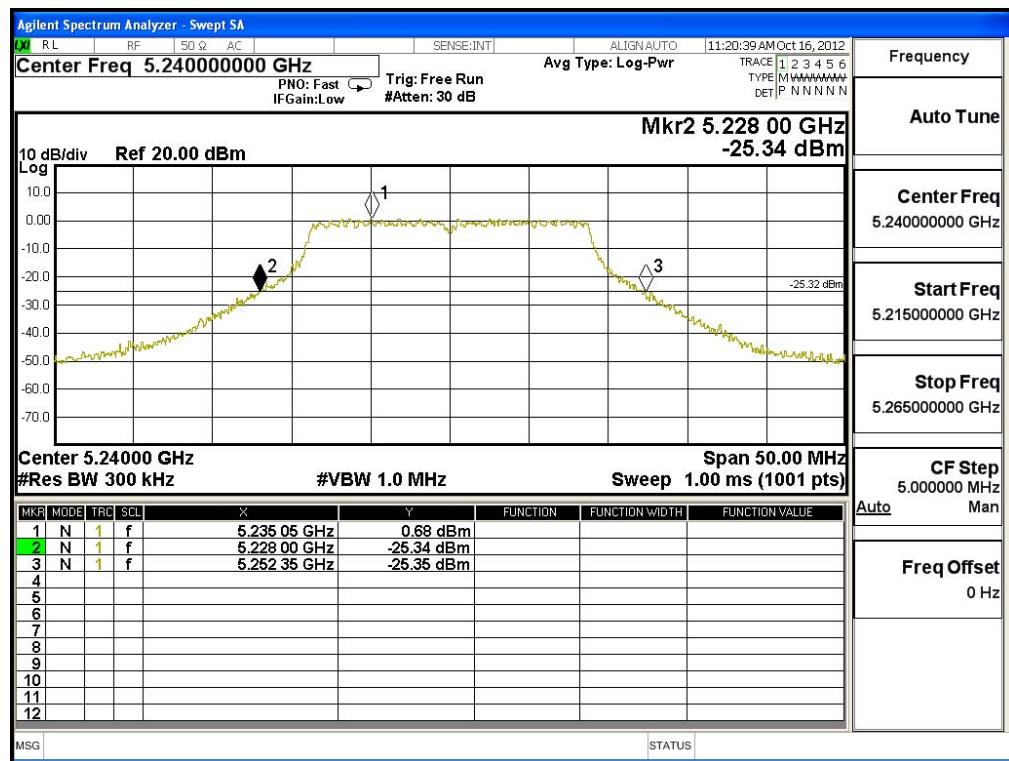
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) =  $10\log(\text{Chain A Power (mW)} + \text{Chain B Power (mW)} + \text{Chain C Power (mW)})$
3. 26 dB Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power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

**26dBc Occupied Bandwidth:**  
**Channel 36 -Chain A**



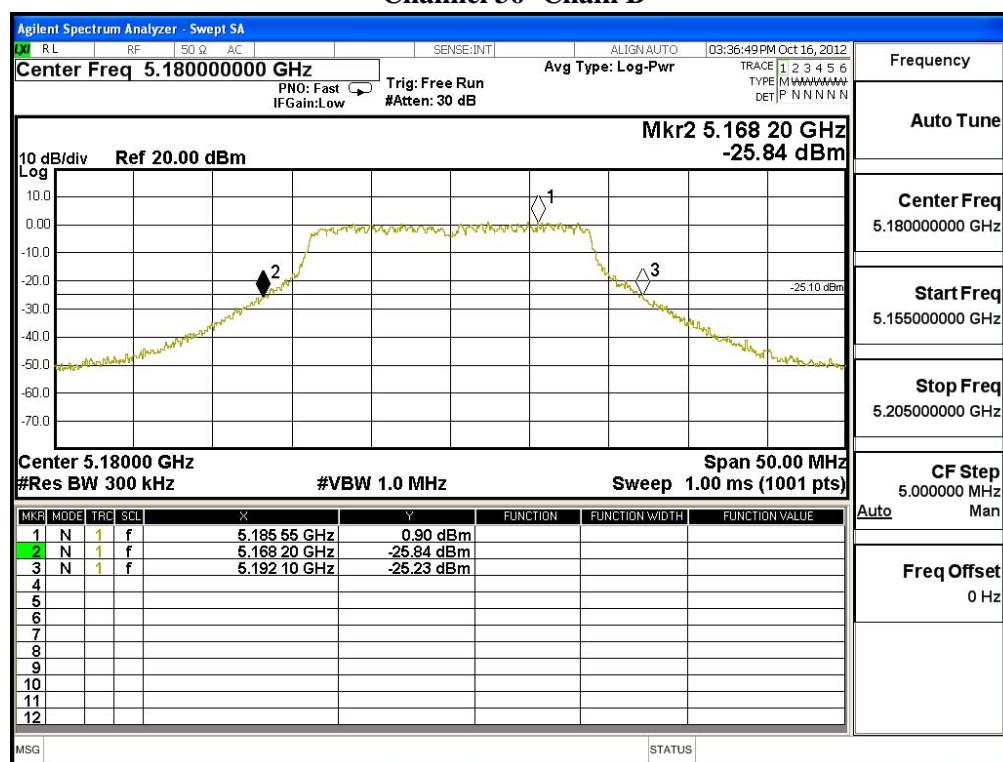
**Channel 44 -Chain A**



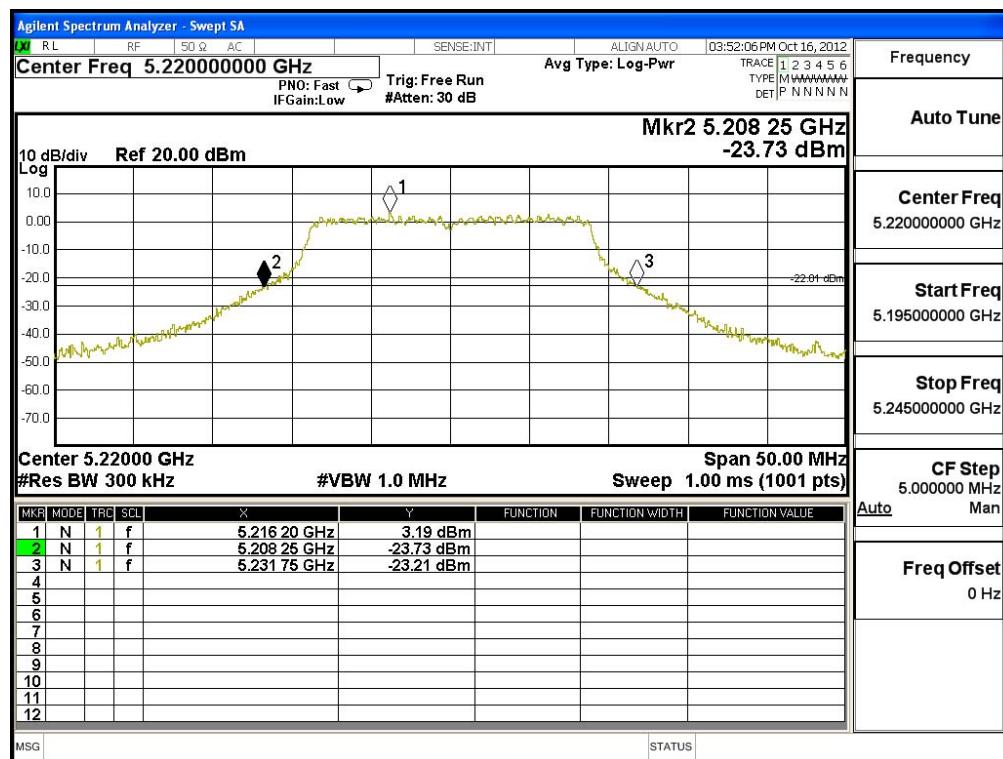
**Channel 48 -Chain A**


### 26dBc Occupied Bandwidth:

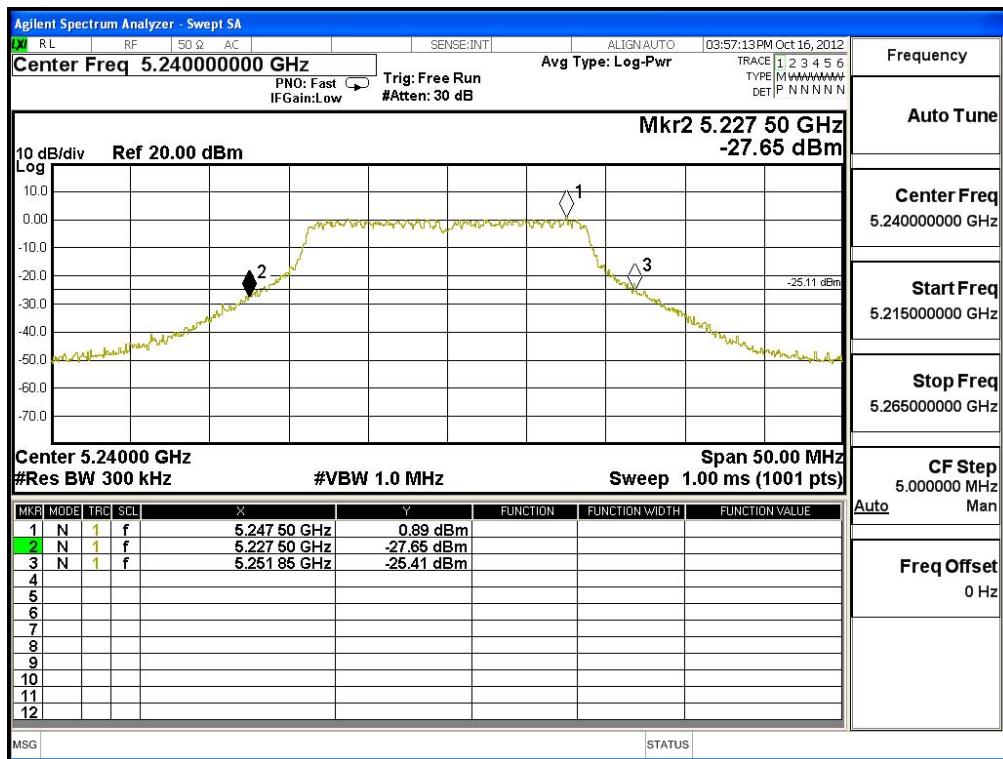
#### Channel 36 -Chain B



#### Channel 44 -Chain B

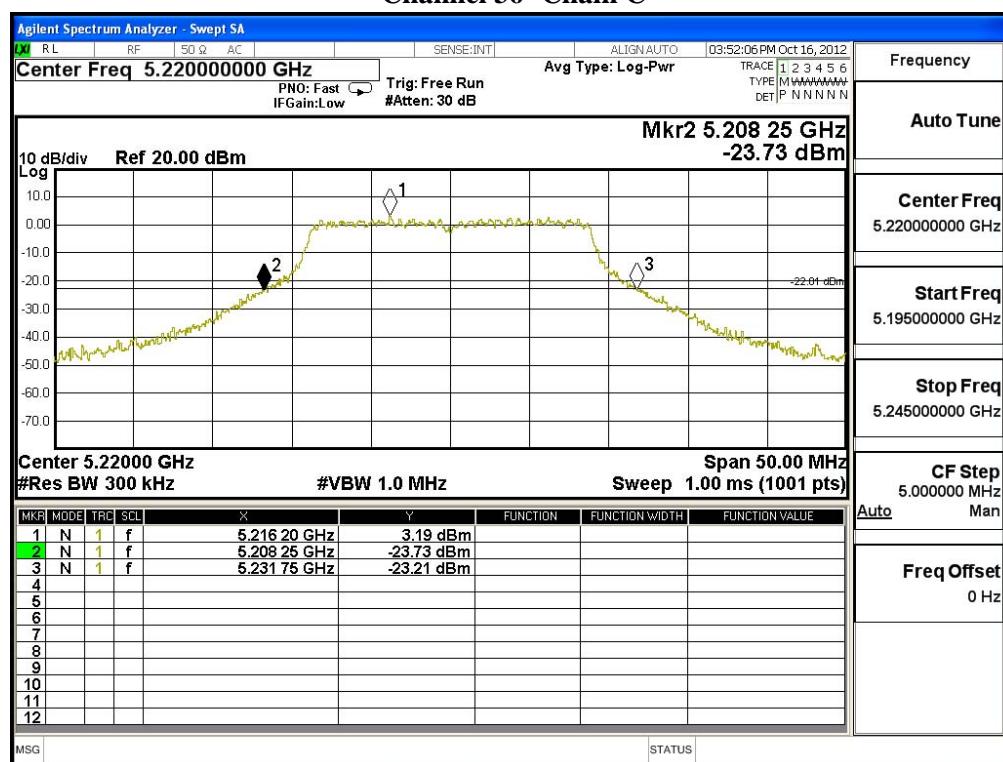


### Channel 48 -Chain B

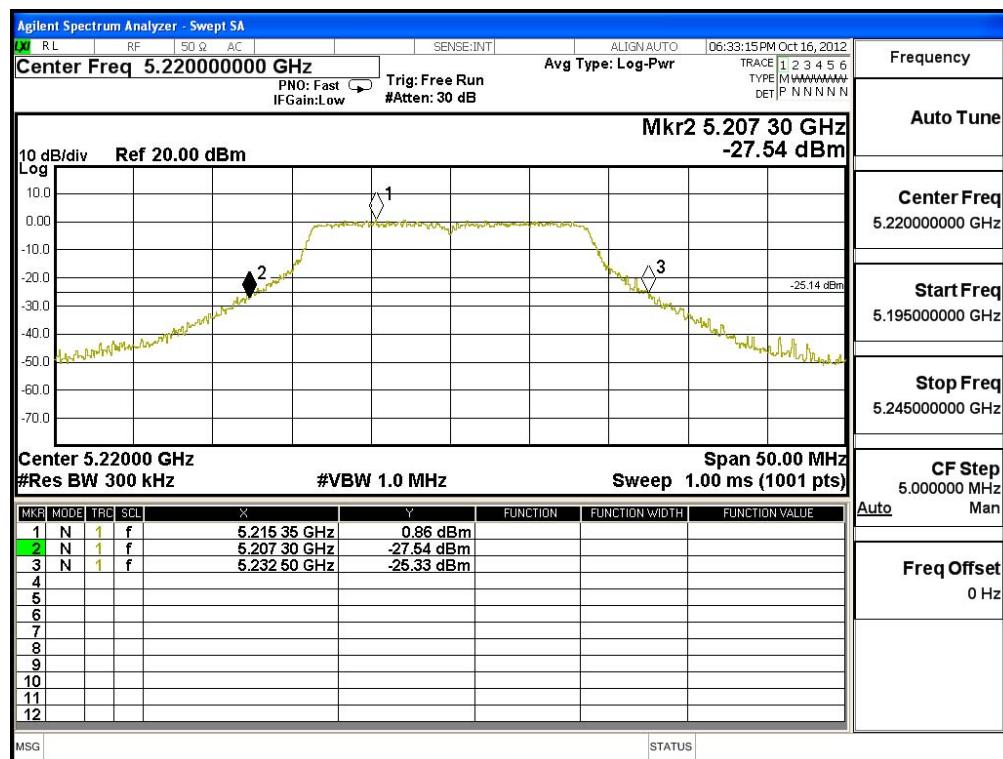


## 26dBc Occupied Bandwidth:

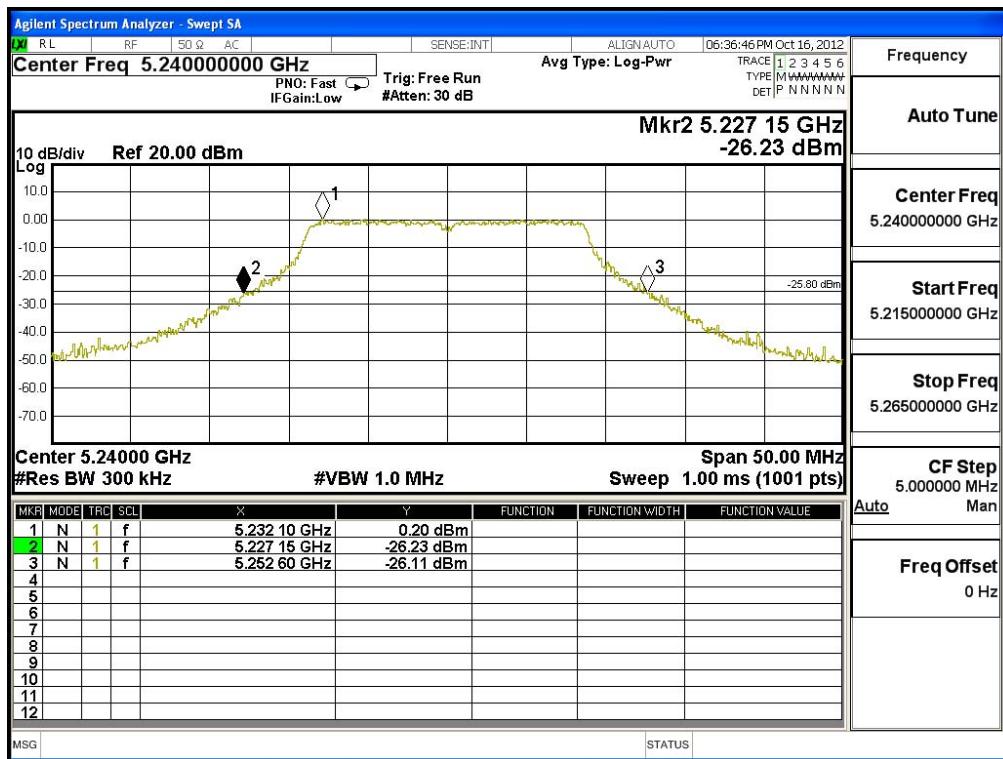
### Channel 36 -Chain C



### 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 6: Transmit (802.11n-40BW 45Mbps)(PIFA 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	11.63	--	--	--	--	--	--	--	<17dBm
46	5230	11.71	11.63	11.57	11.43	11.36	11.27	11.16	11.09	<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	11.73	--	--	--	--	--	--	--	<17dBm
46	5230	12	11.92	11.81	11.73	11.67	11.56	11.43	11.37	<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	11.81	--	--	--	--	--	--	--	<17dBm
46	5230	11.83	11.75	11.64	11.53	11.47	11.37	11.2	11.16	<17dBm

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

**Maximum conducted output power Measurement:**

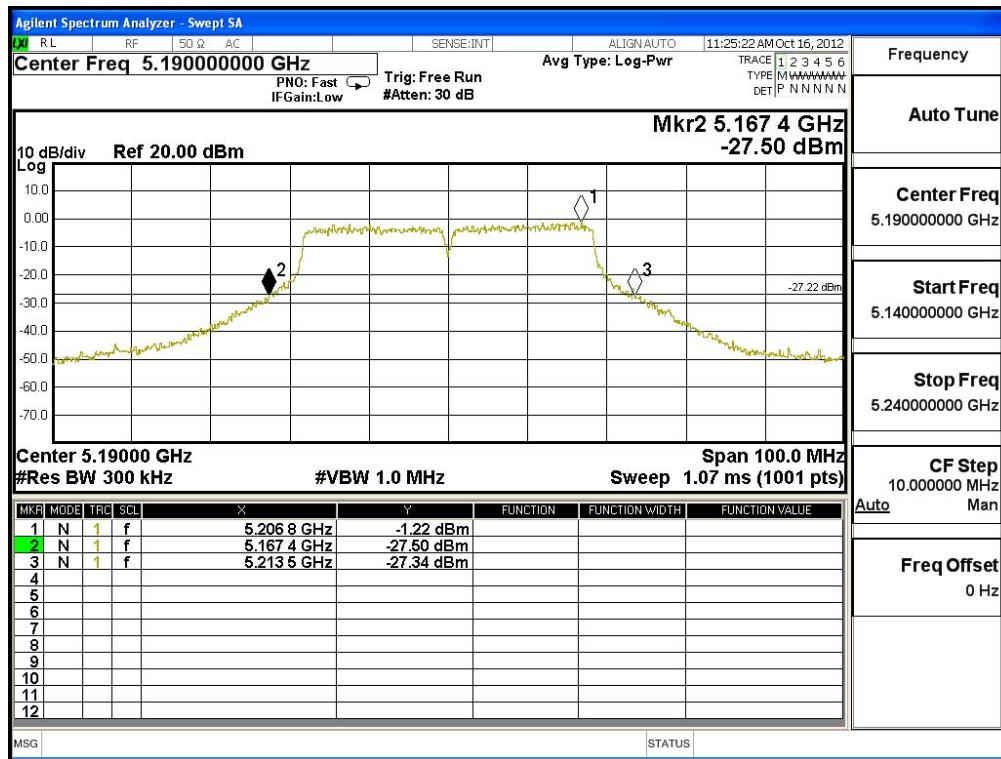
(CHAIN A+ B+C)

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	46.100	11.63	11.73	11.81	16.50	17	20.64
46	5230	45.200	11.71	12.00	11.83	16.62	17	20.55

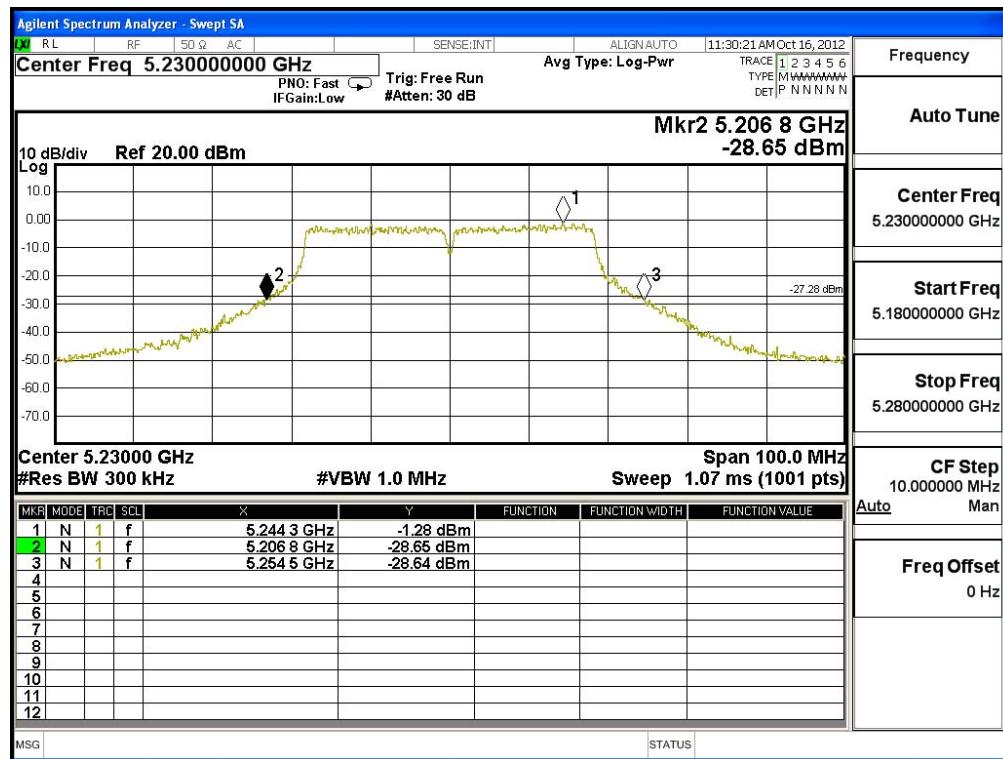
Note:

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.

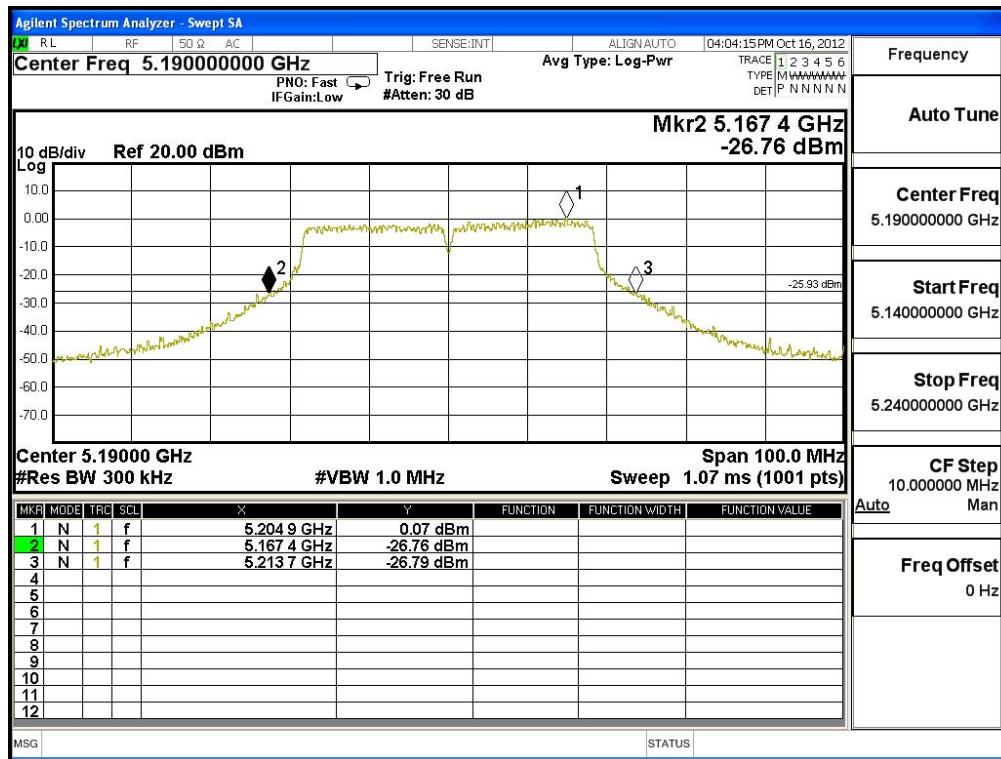
**26dBc Occupied Bandwidth:**  
**Channel 38 – Chain A**



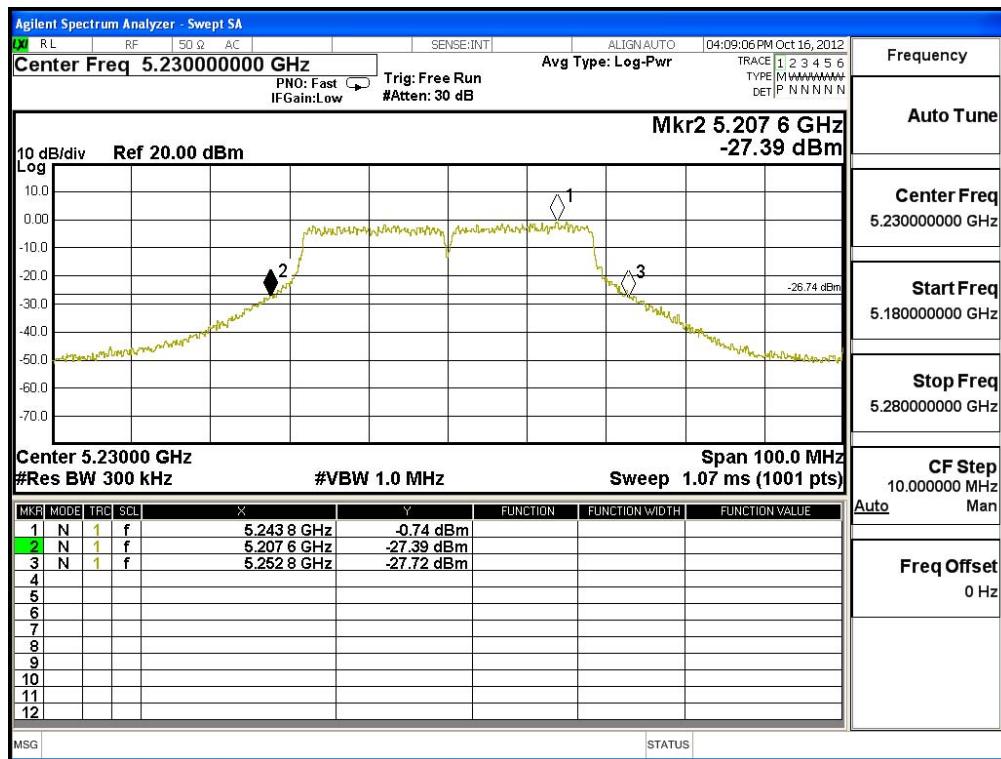
**Channel 46 – Chain A**



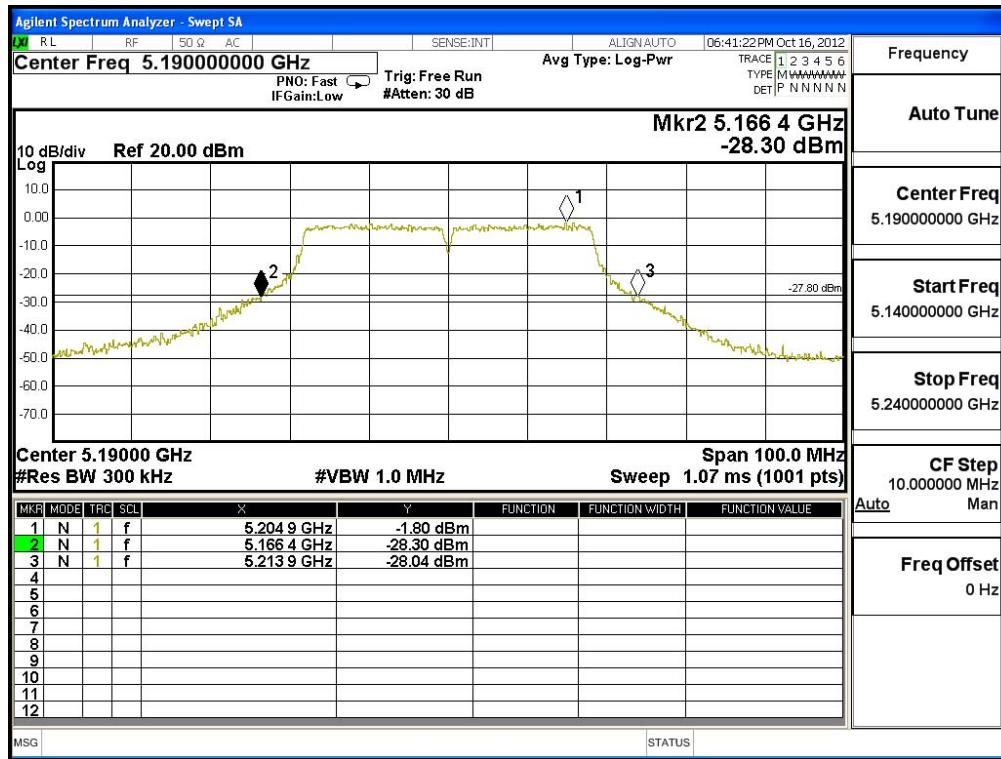
**26dBc Occupied Bandwidth:**  
**Channel 38 – Chain B**



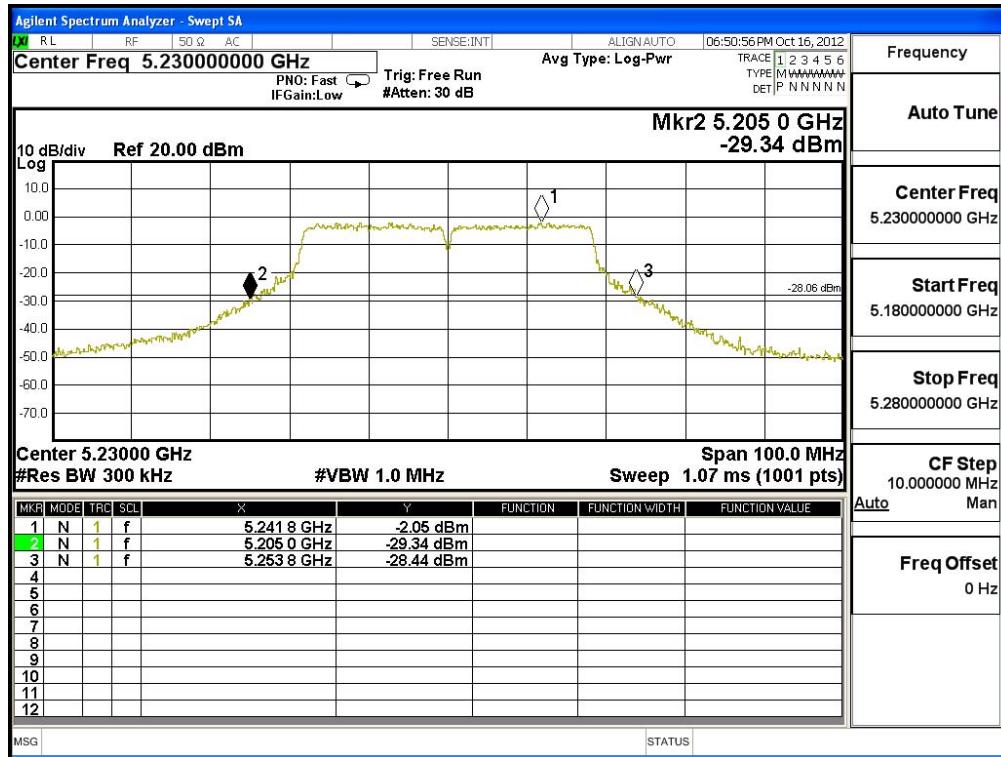
**Channel 46 – Chain B**



**26dBc Occupied Bandwidth:**  
**Channel 38 – Chain C**



**Channel 46 – Chain C**



## 4. Peak Power Spectral Density

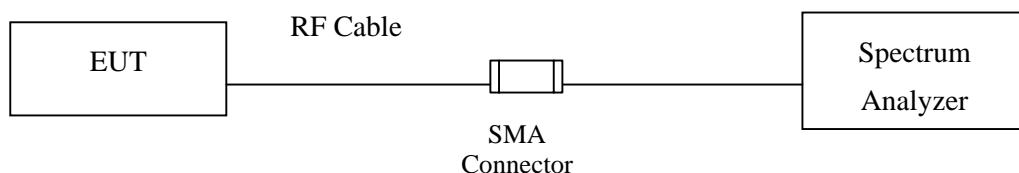
### 4.1. Test Equipment

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.

### 4.2. Test Setup



### 4.3. Limits

- (4) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (5) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
- (6) For the band 5.725-5.825 GHz, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.

#### **4.4. 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.

#### **4.5. Uncertainty**

± 1.27 dB

#### 4.6. Test Result of Peak Power Spectral Density

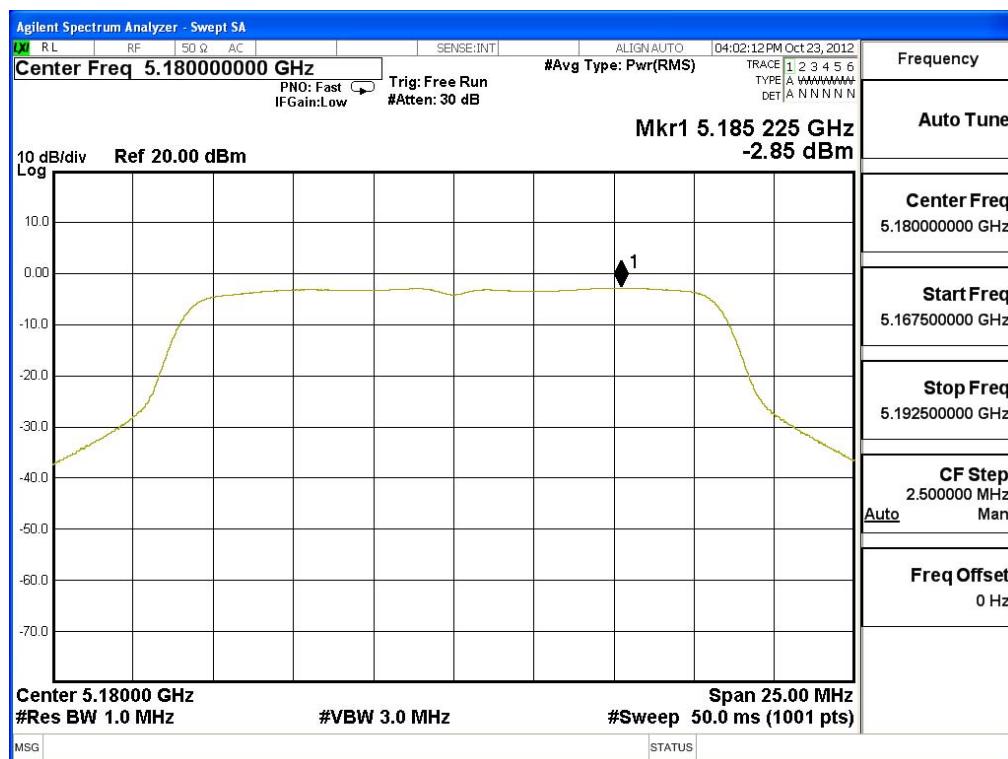
Product : SpectraGuardR Access Point / Sensor  
Test Item : Peak Power Spectral Density  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	-2.850	-2.760	-1.310	2.524	<4	Pass
44	5220	-1.730	-2.560	-2.070	2.664	<4	Pass
48	5240	-1.660	-3.290	-2.830	2.233	<4	Pass

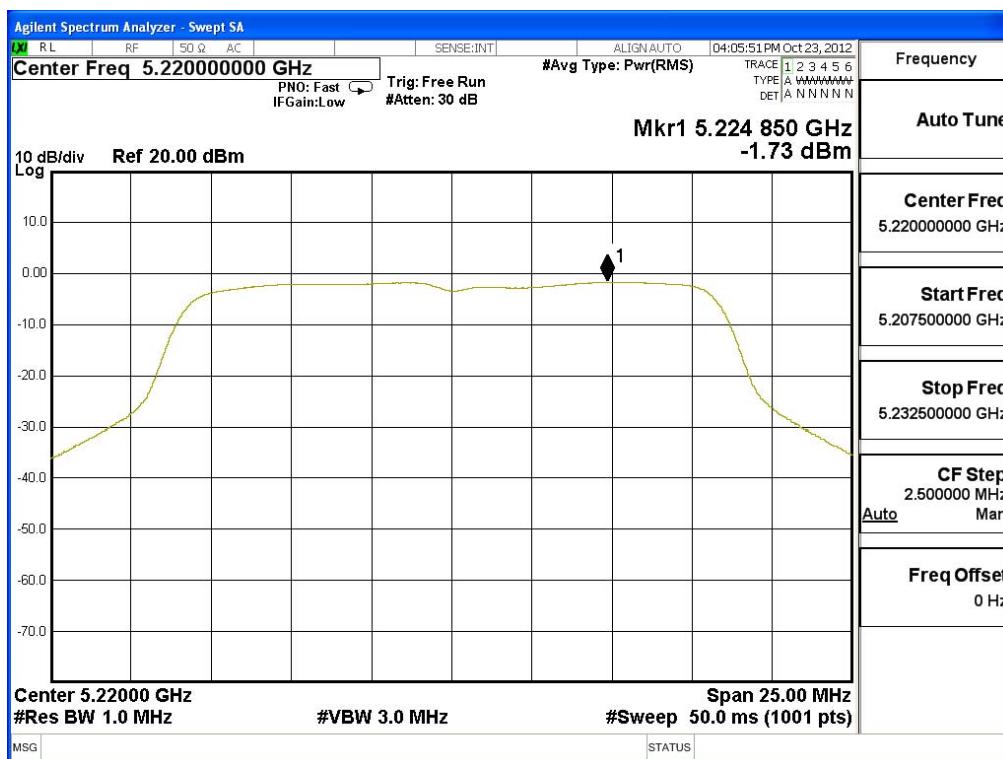
Note:

1. Measurement Level (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW)  
+ Chain C Power (mW))

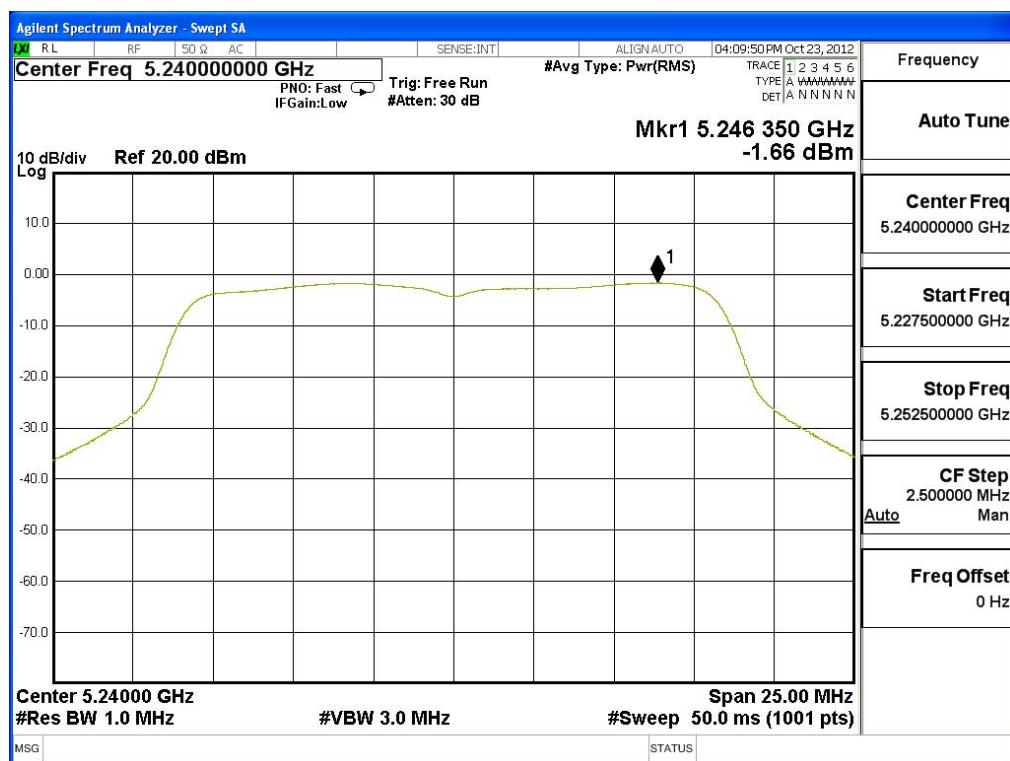
### Channel 36: CHAIN A



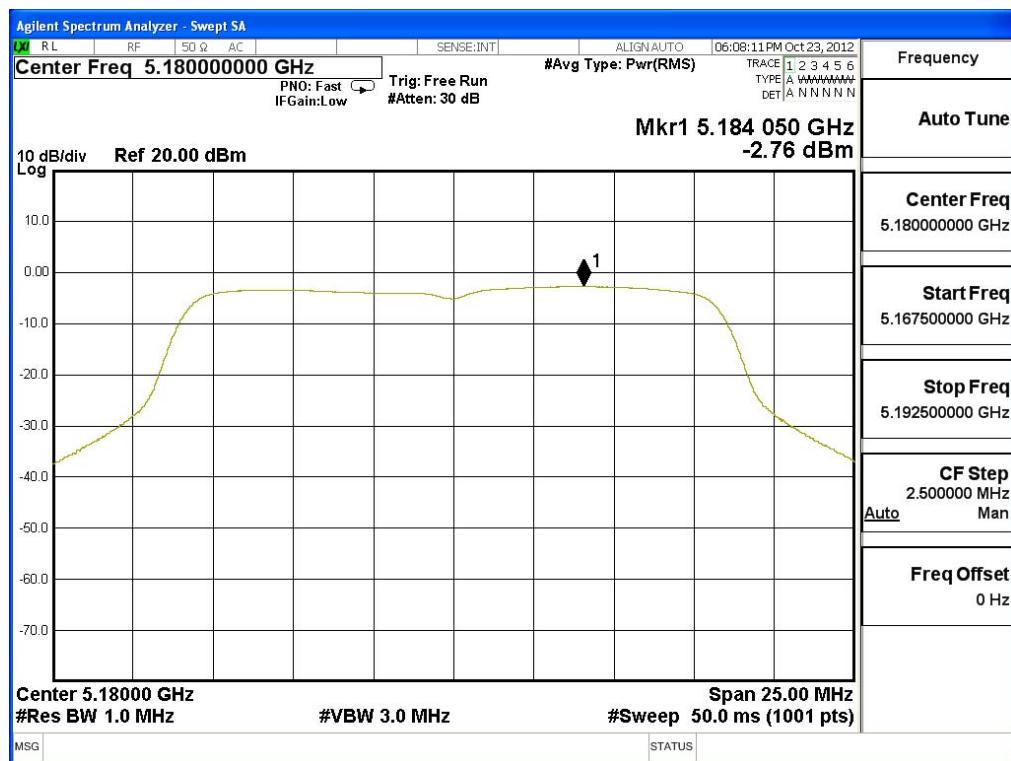
### Channel 44: CHAIN A



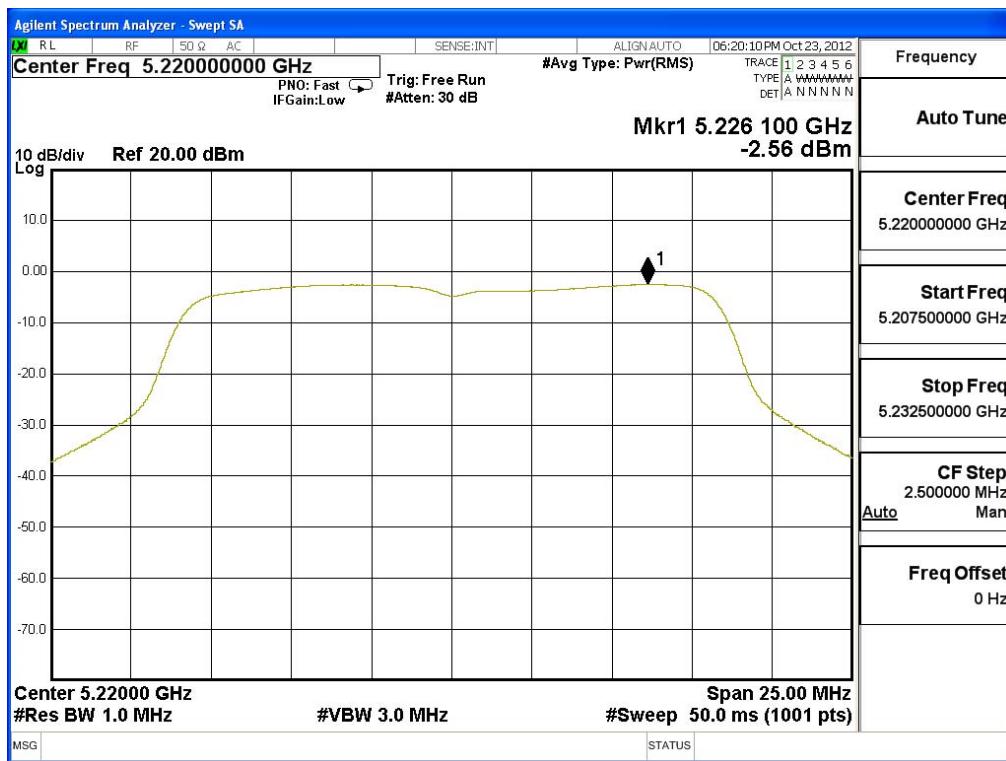
### Channel 48: CHAIN A



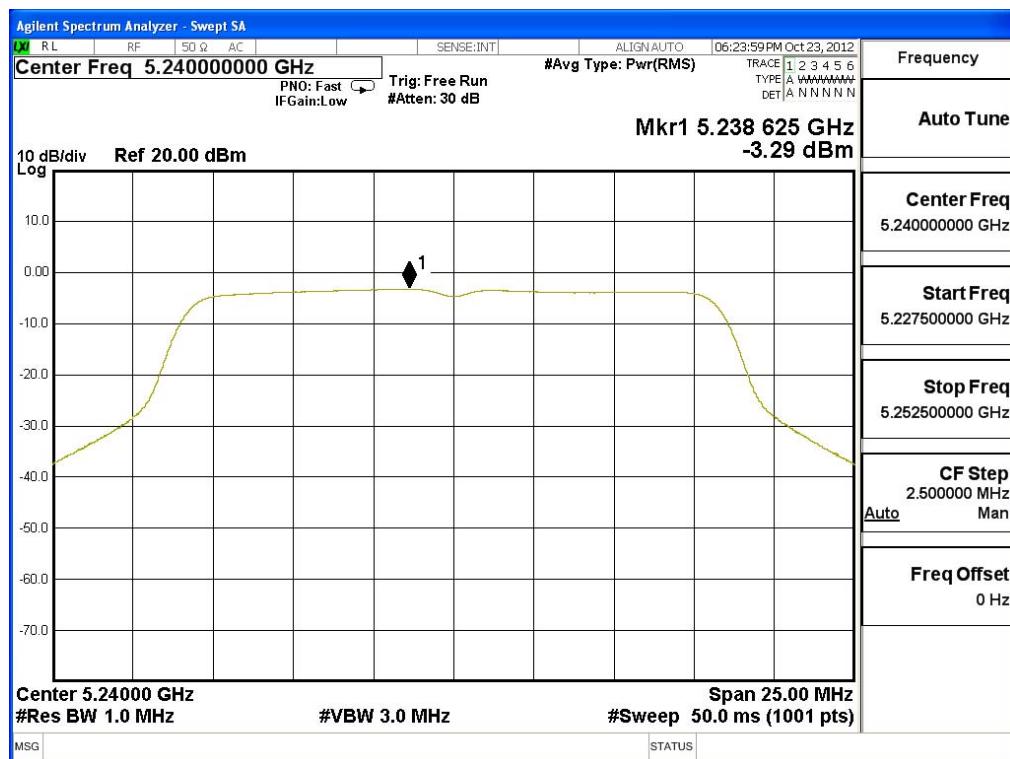
### Channel 36: CHAIN B



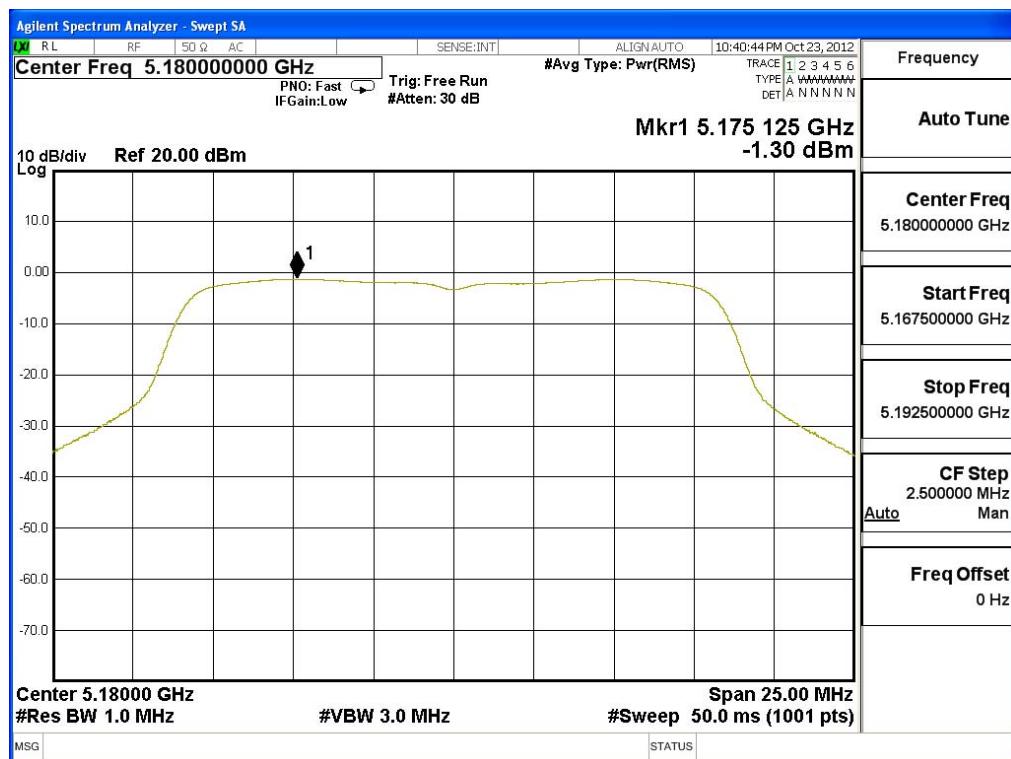
### Channel 44: CHAIN B



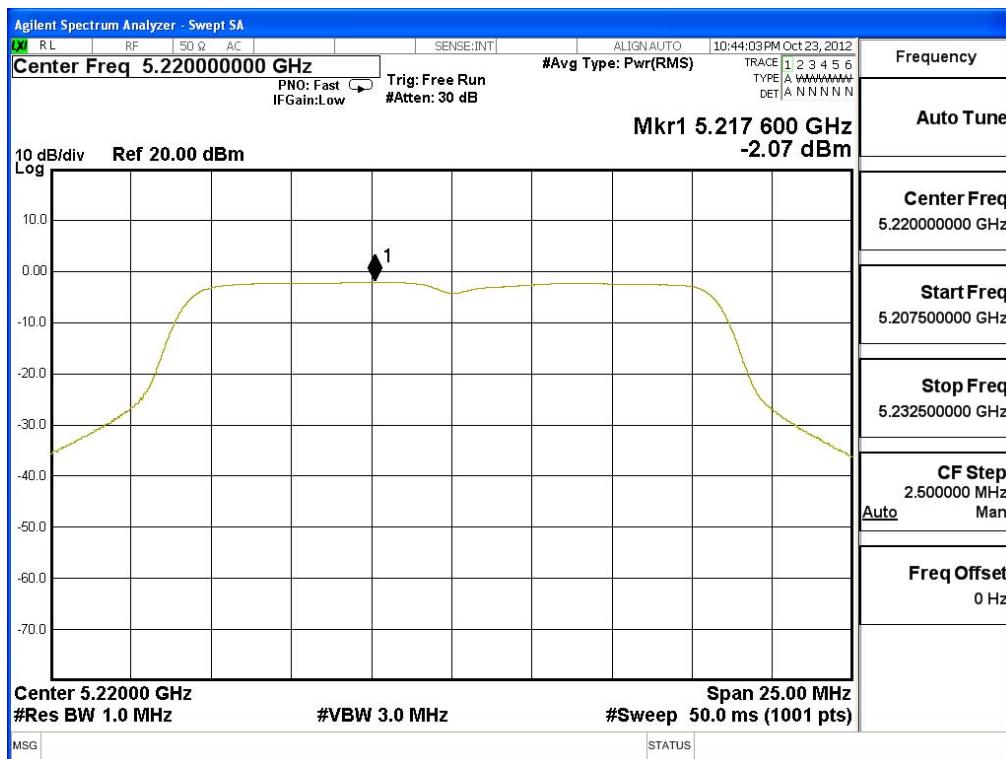
### Channel 48: CHAIN B



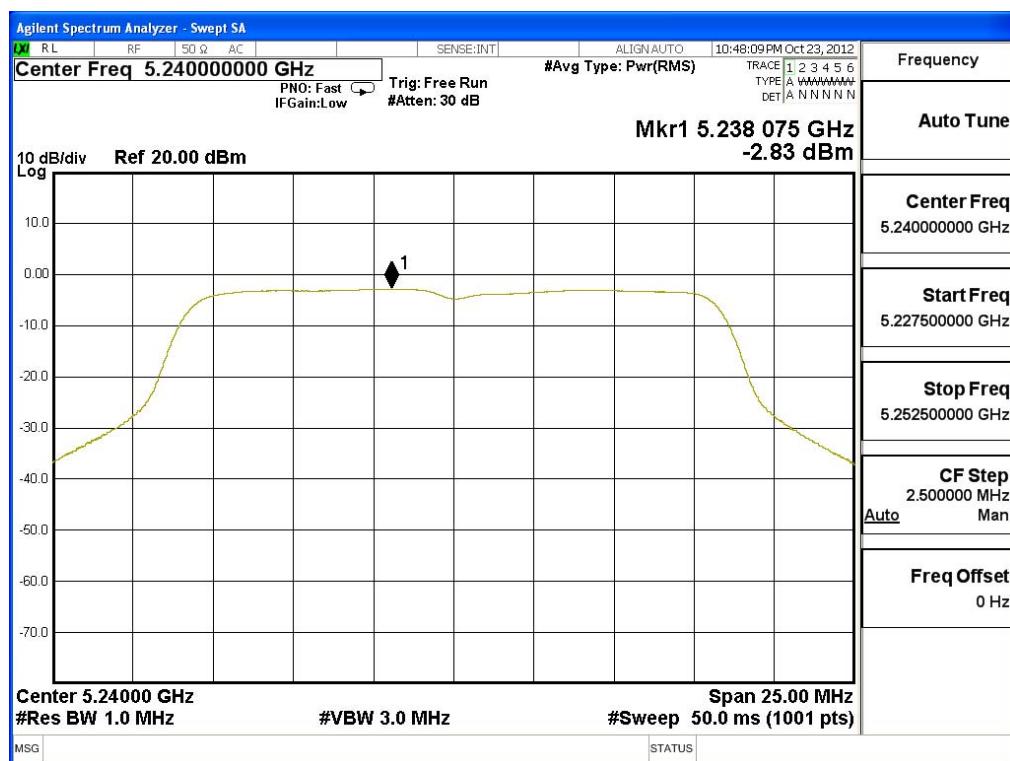
### Channel 36: CHAIN C



### Channel 44: CHAIN C



### Channel 48: CHAIN C



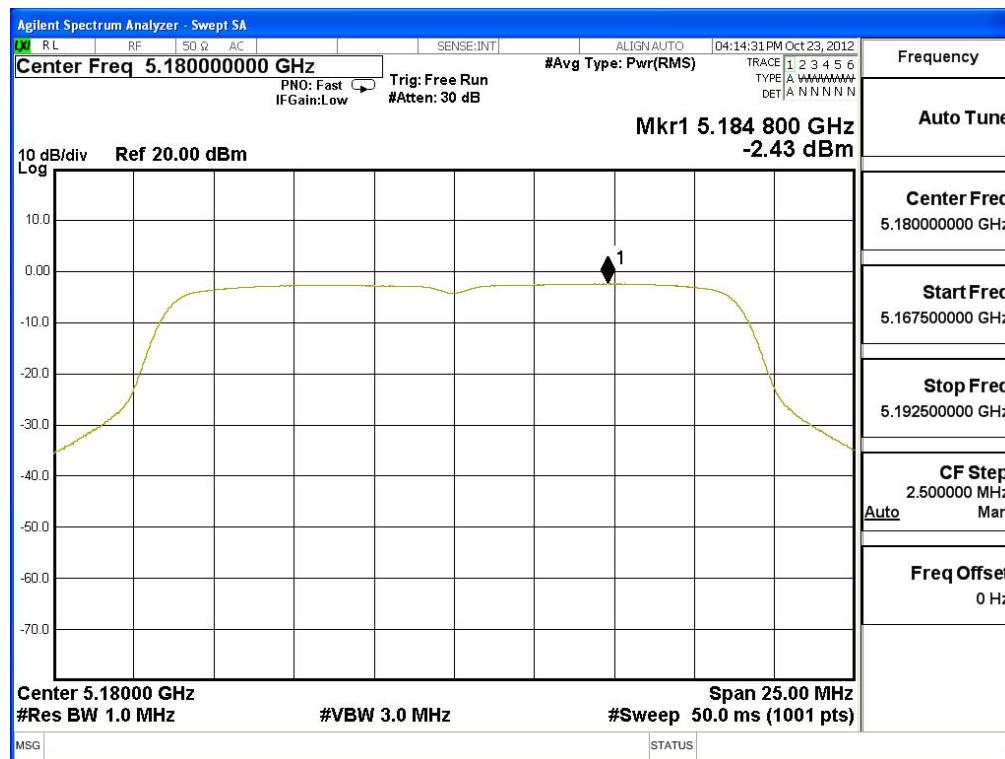
Product : SpectraGuardR Access Point / Sensor  
Test Item : Peak Power Spectral Density  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmit (802.11n-20BW 21.7Mbps)(Dipole Antenna)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	-2.430	-3.340	-2.010	2.213	<4	Pass
44	5220	-2.110	-3.250	-2.910	2.041	<4	Pass
48	5240	-2.460	-3.680	-3.480	1.598	<4	Pass

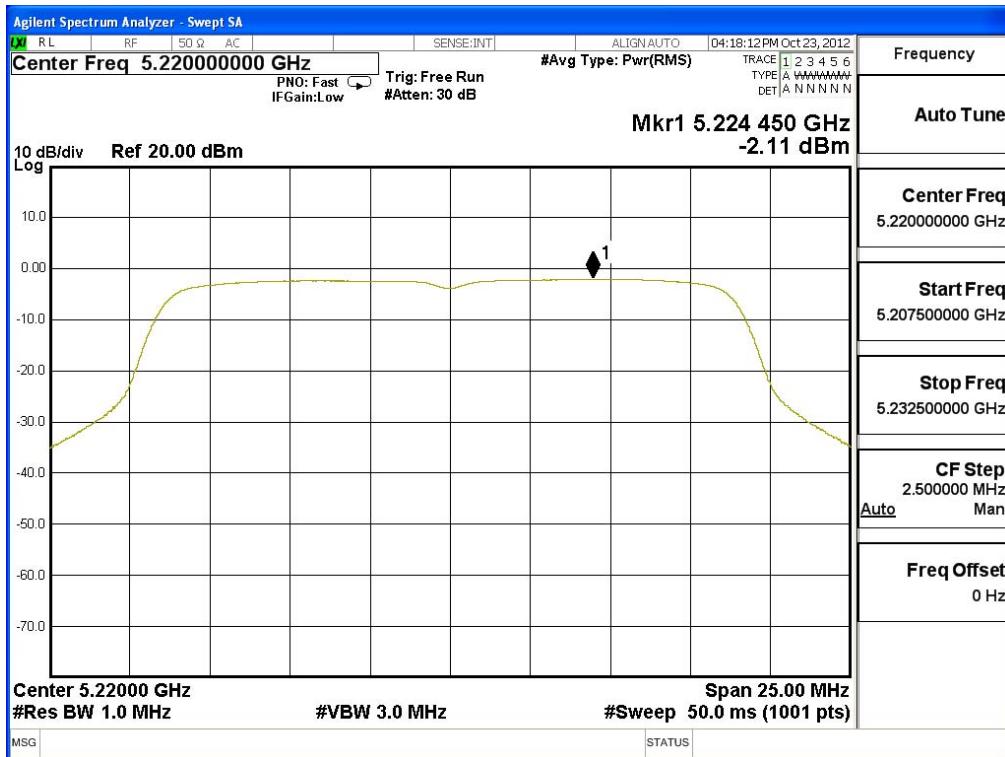
Note:

1. Measurement Level (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW) + Chain C Power (mW))

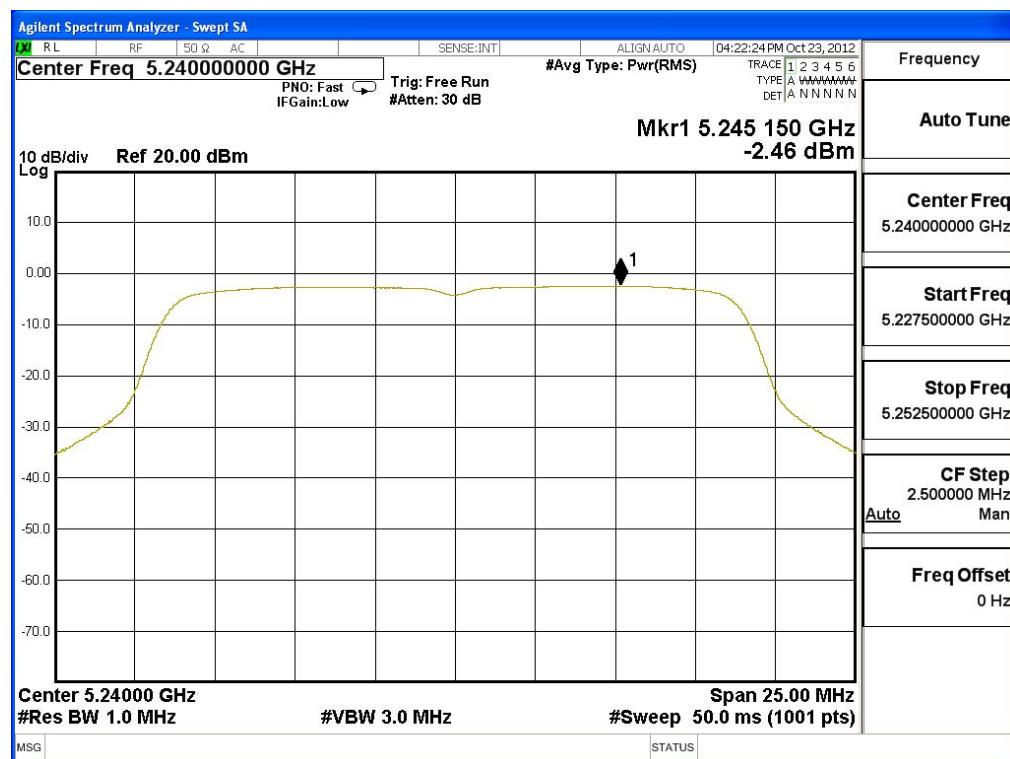
### Channel 36 – Chain A



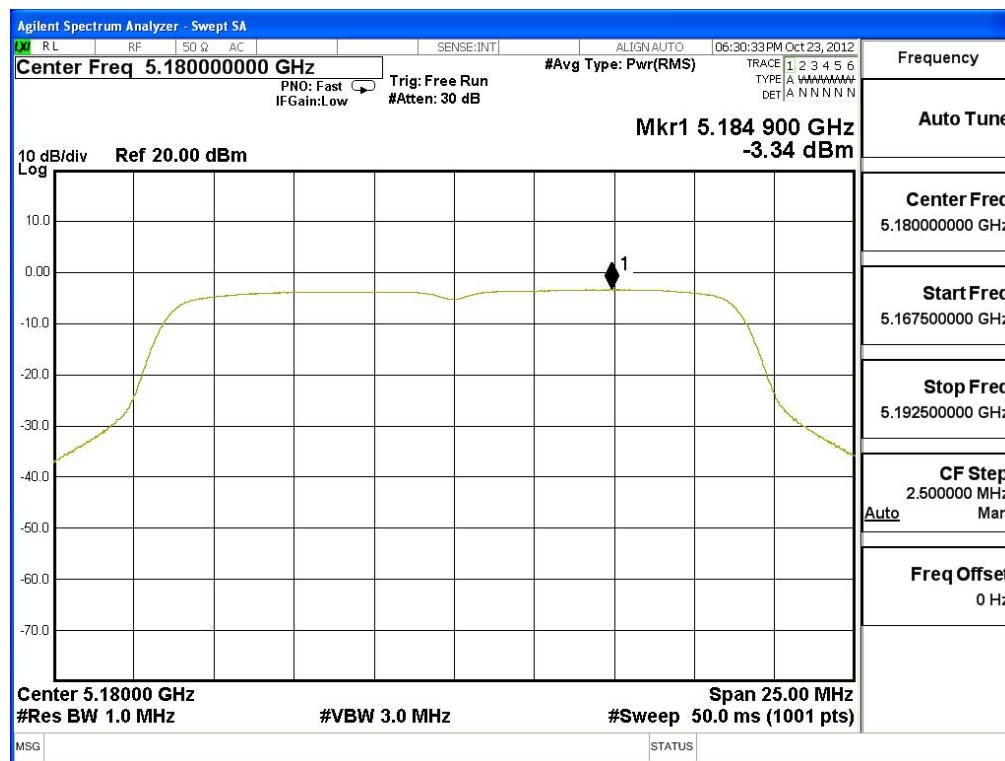
### Channel 44 – Chain A



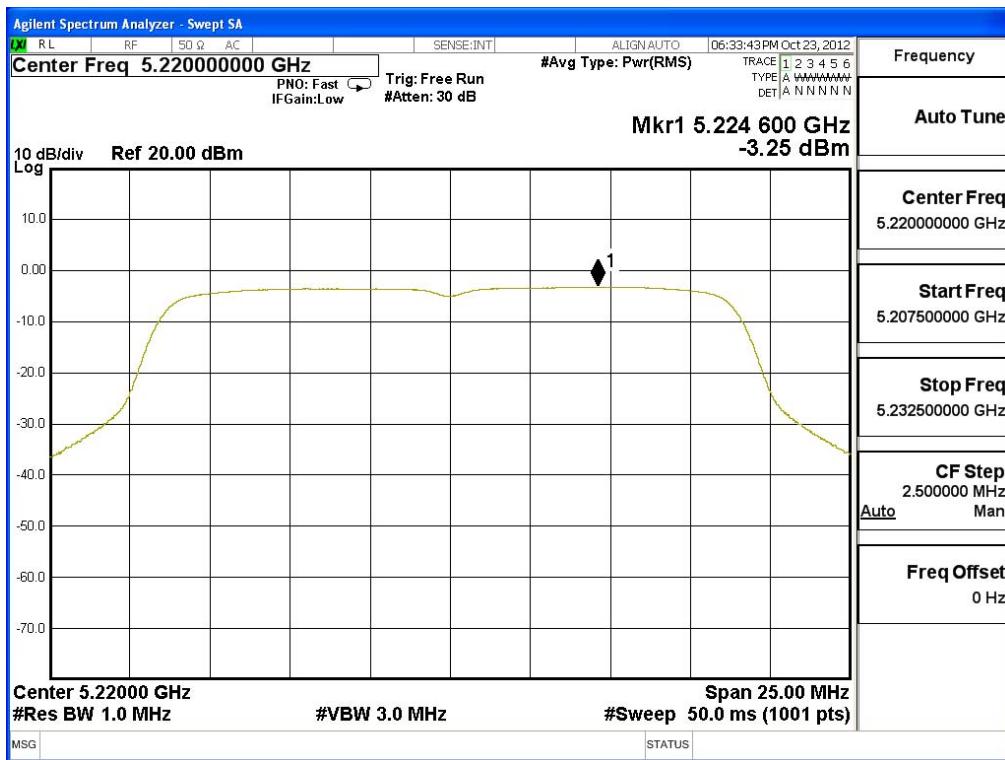
### Channel 48 – Chain A



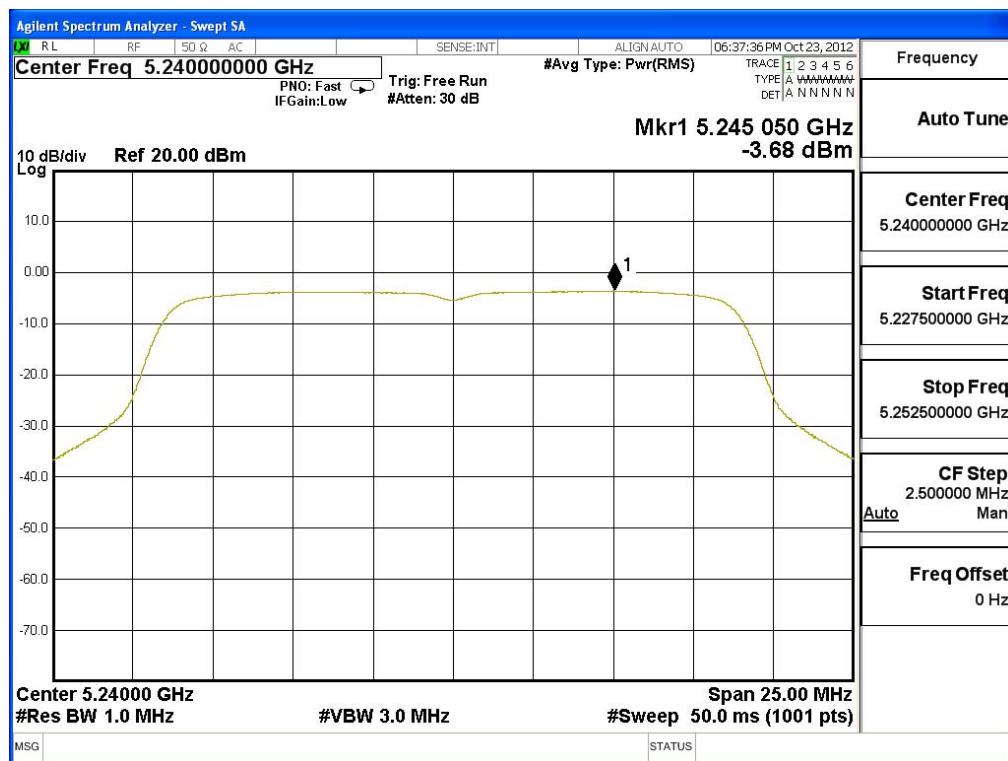
### Channel 36 – Chain B



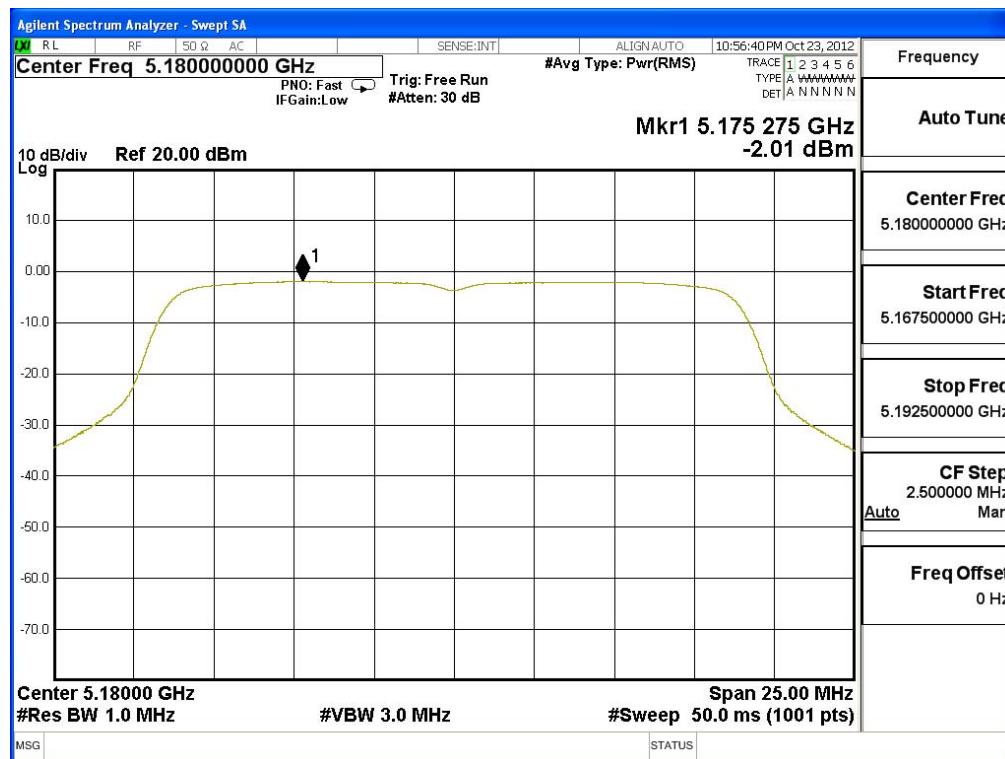
### Channel 44 – Chain B



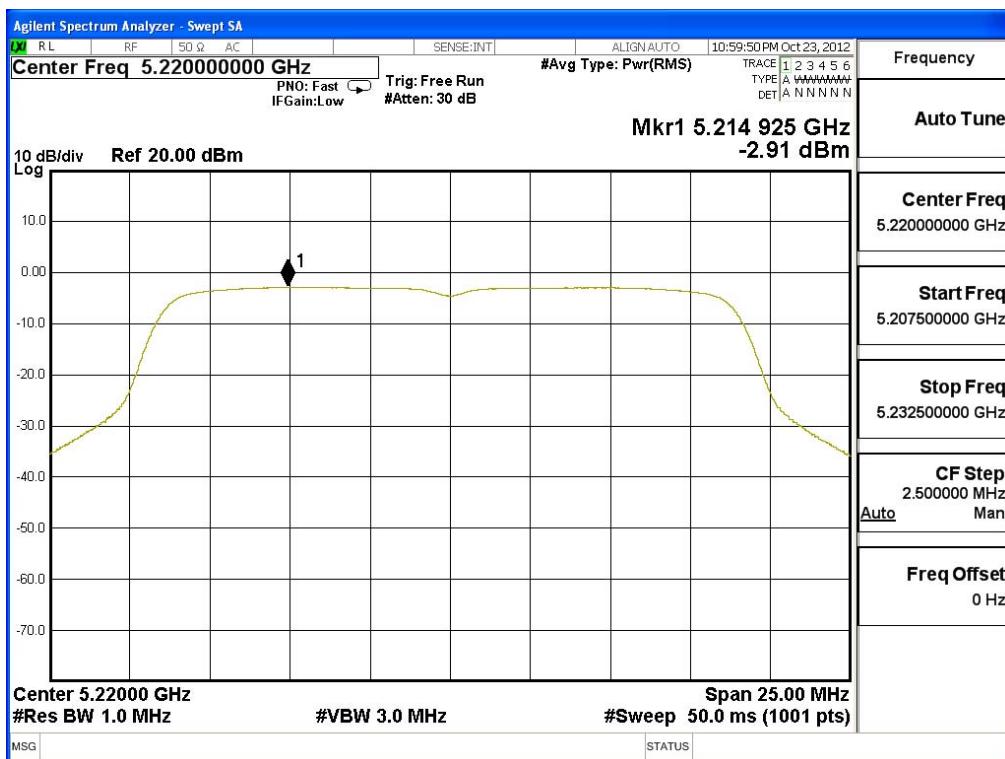
### Channel 48 – Chain B



### Channel 36 – Chain C



### Channel 44 – Chain C



### Channel 48 – Chain C

