4. Peak Power Spectral Density

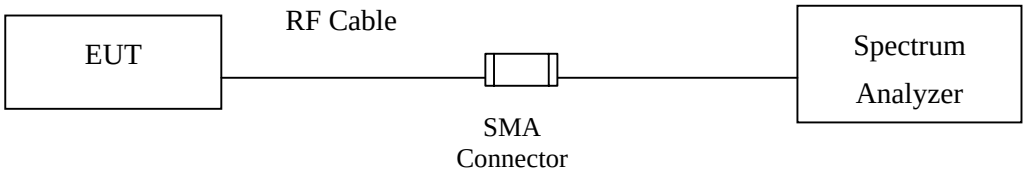
4.1. Test Equipment

	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

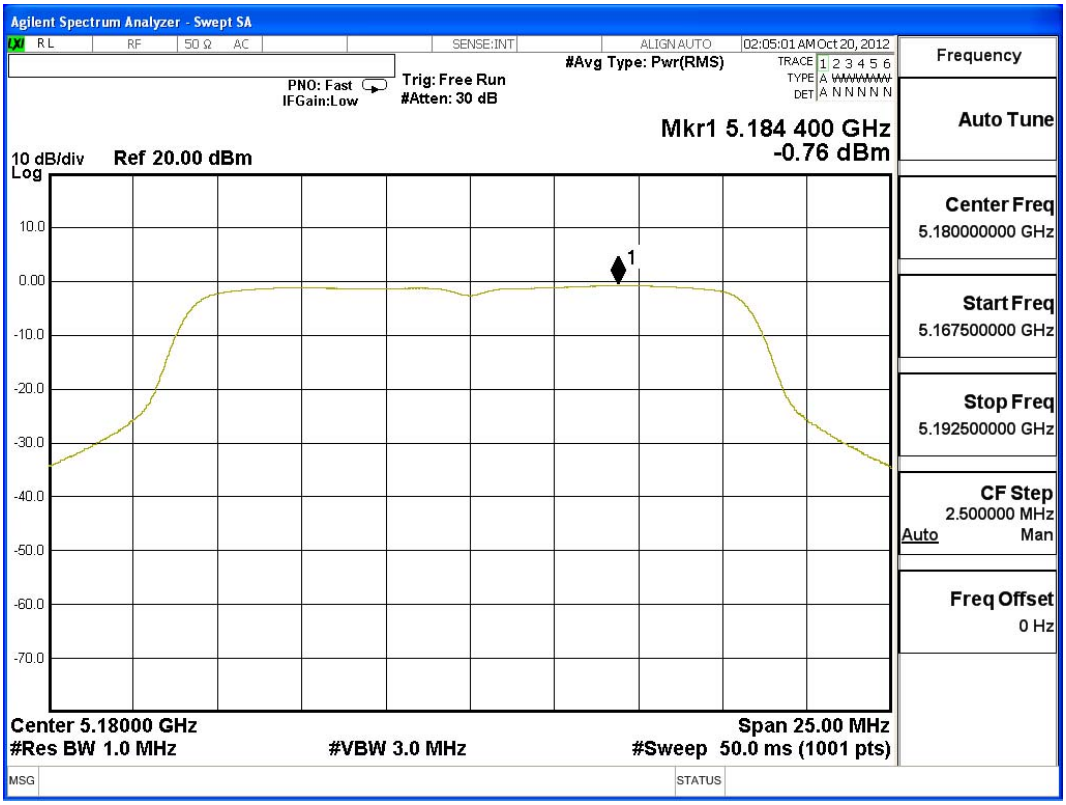
Product : SpectraGuardR Access Point / Sensor
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	-0.760	-0.880	2.191	<4	Pass
44	5220	-0.170	-1.420	2.260	<4	Pass
48	5240	0.530	-1.410	2.678	<4	Pass

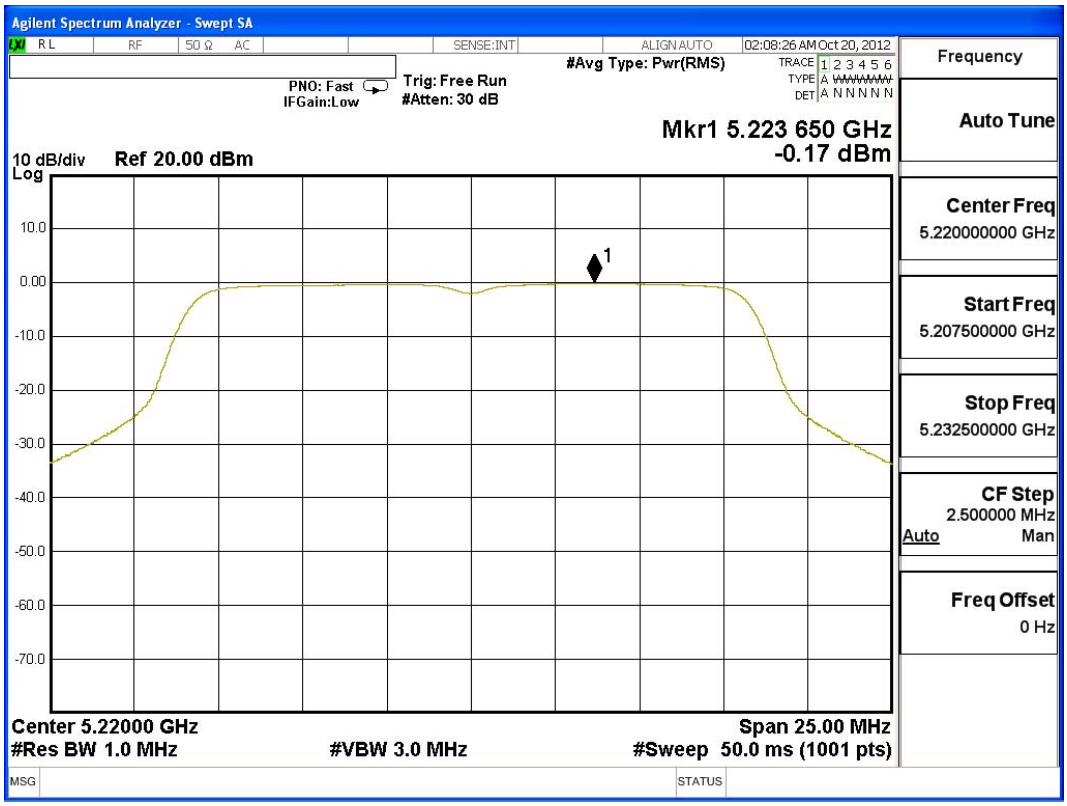
Note:

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

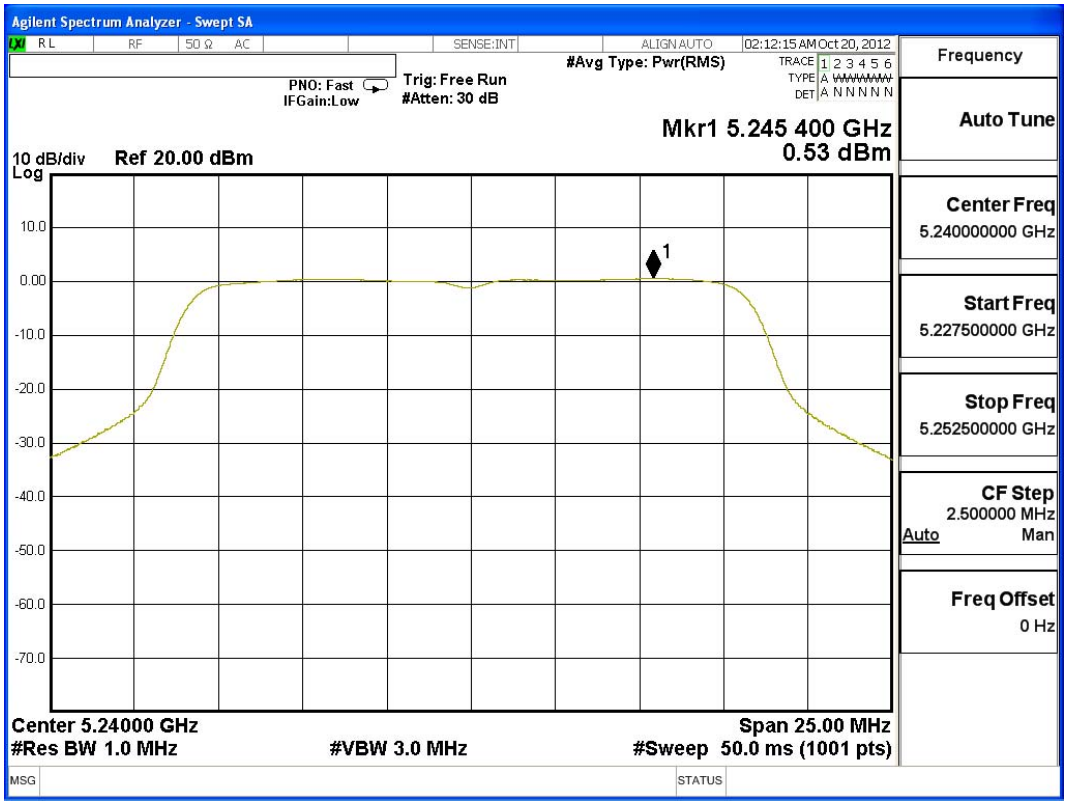
Channel 36: CHAIN A



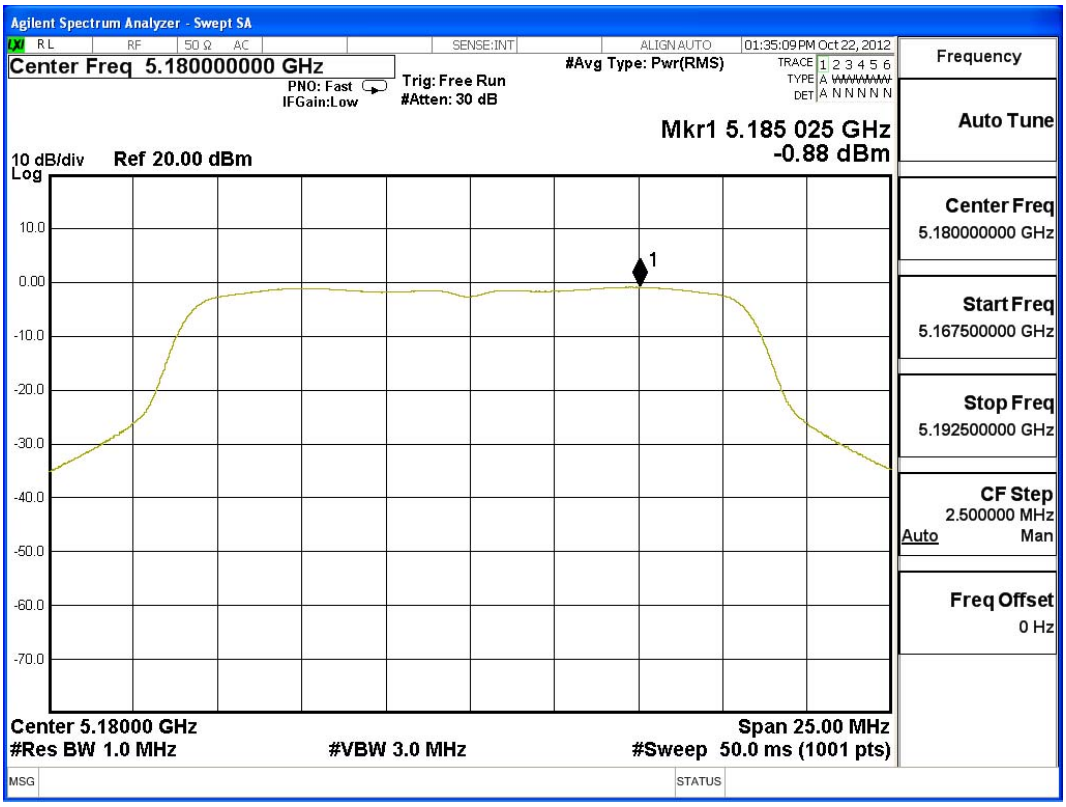
Channel 44: CHAIN A



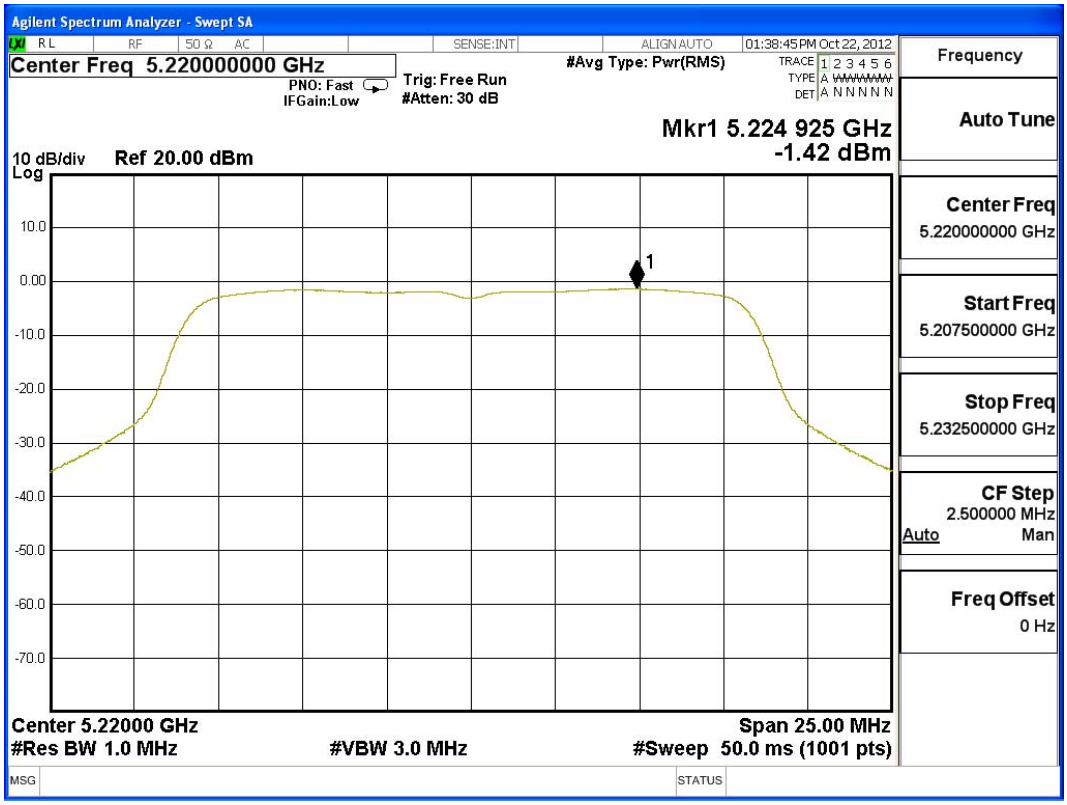
Channel 48: CHAIN A



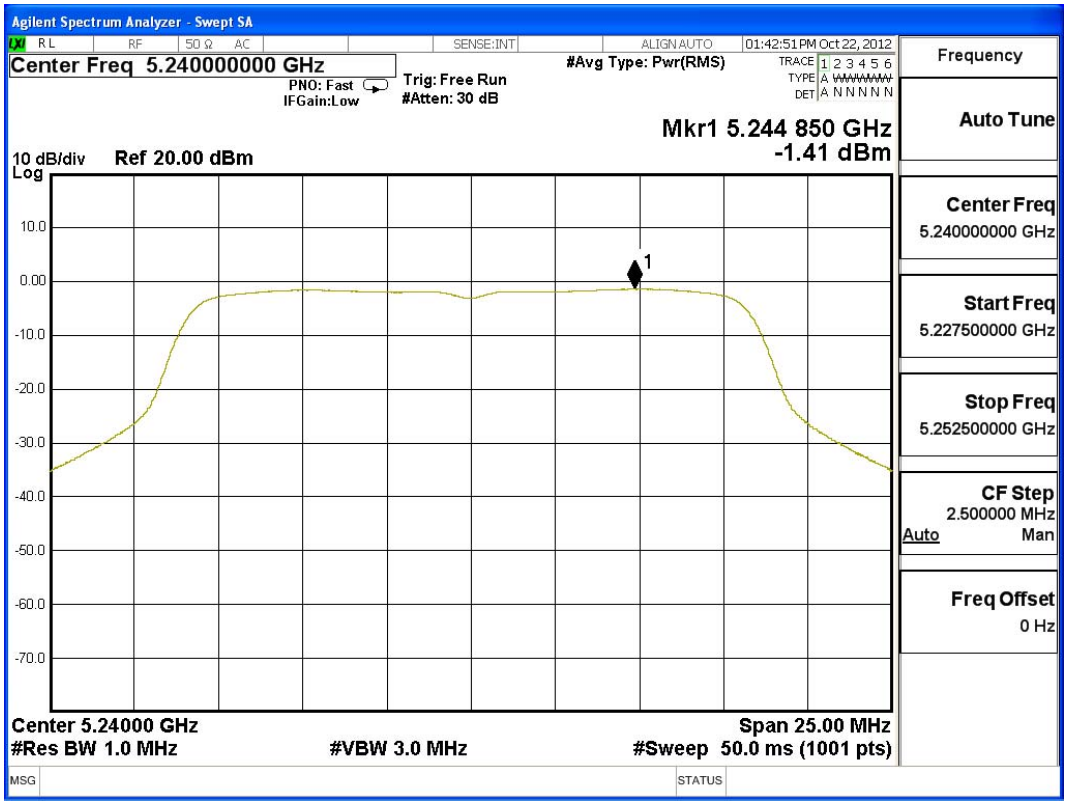
Channel 36: CHAIN B



Channel 44: CHAIN B



Channel 48: CHAIN B



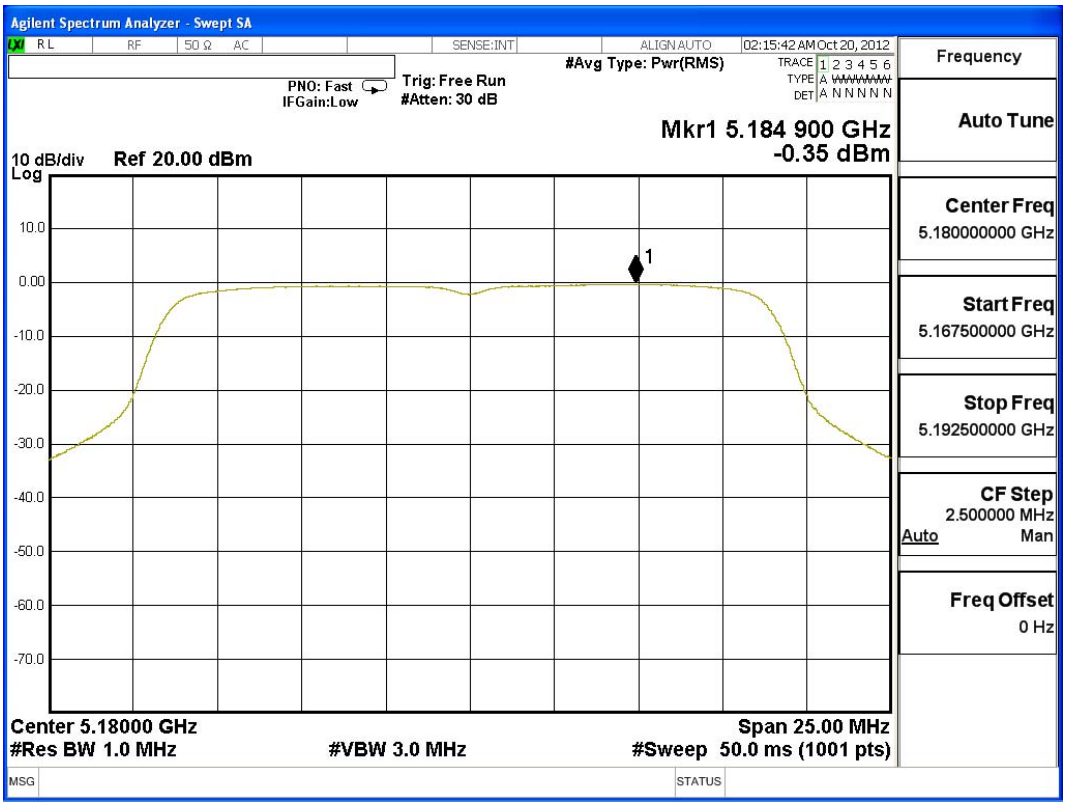
Product : SpectraGuardR Access Point / Sensor
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	-0.350	-0.280	2.695	<4	Pass
44	5220	0.390	-1.270	2.649	<4	Pass
48	5240	0.210	-1.710	2.366	<4	Pass

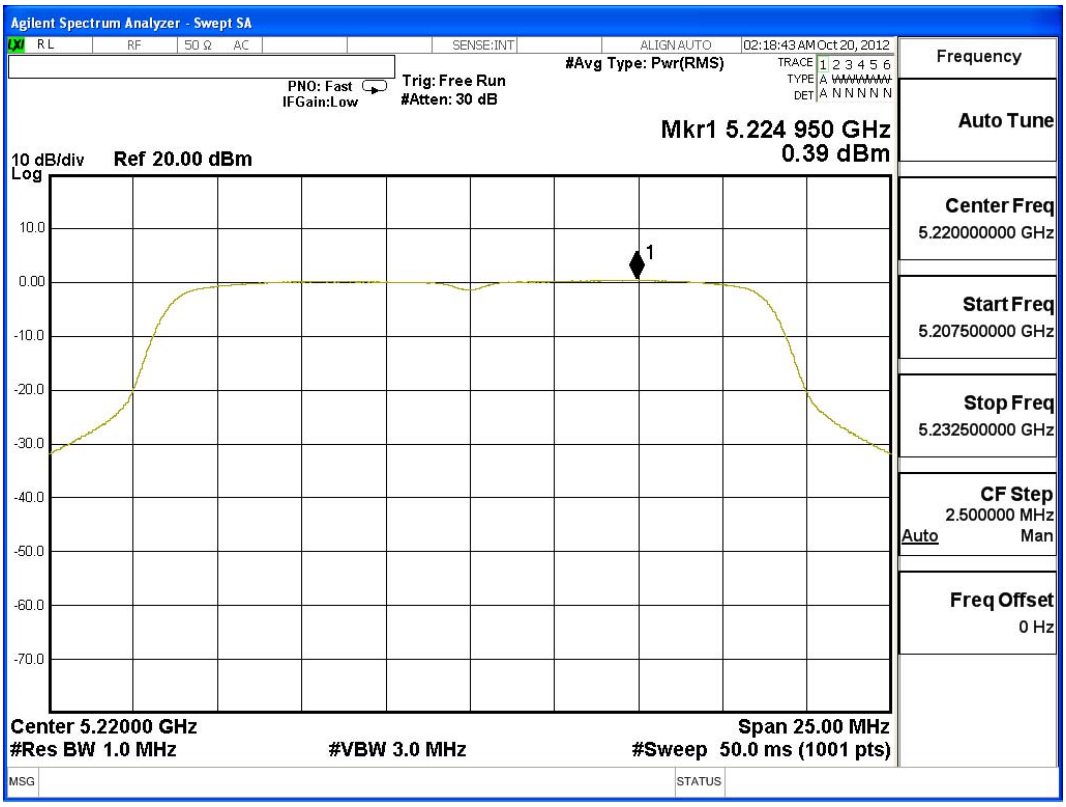
Note:

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

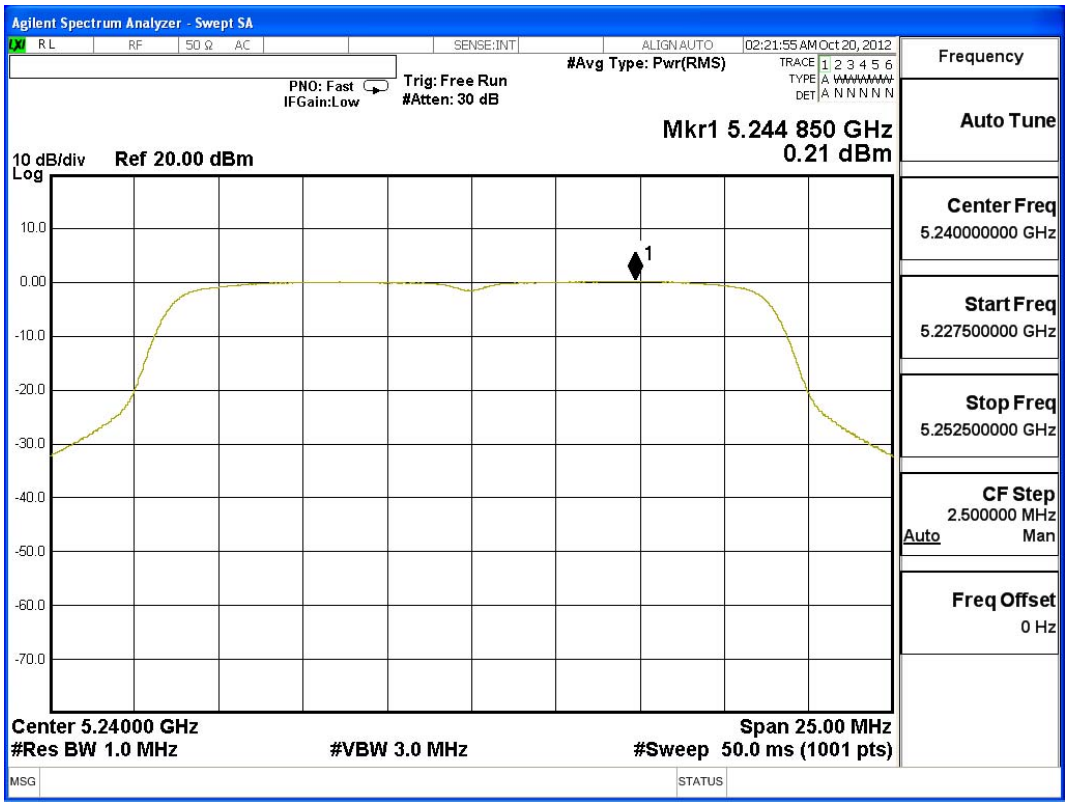
Channel 36 – Chain A



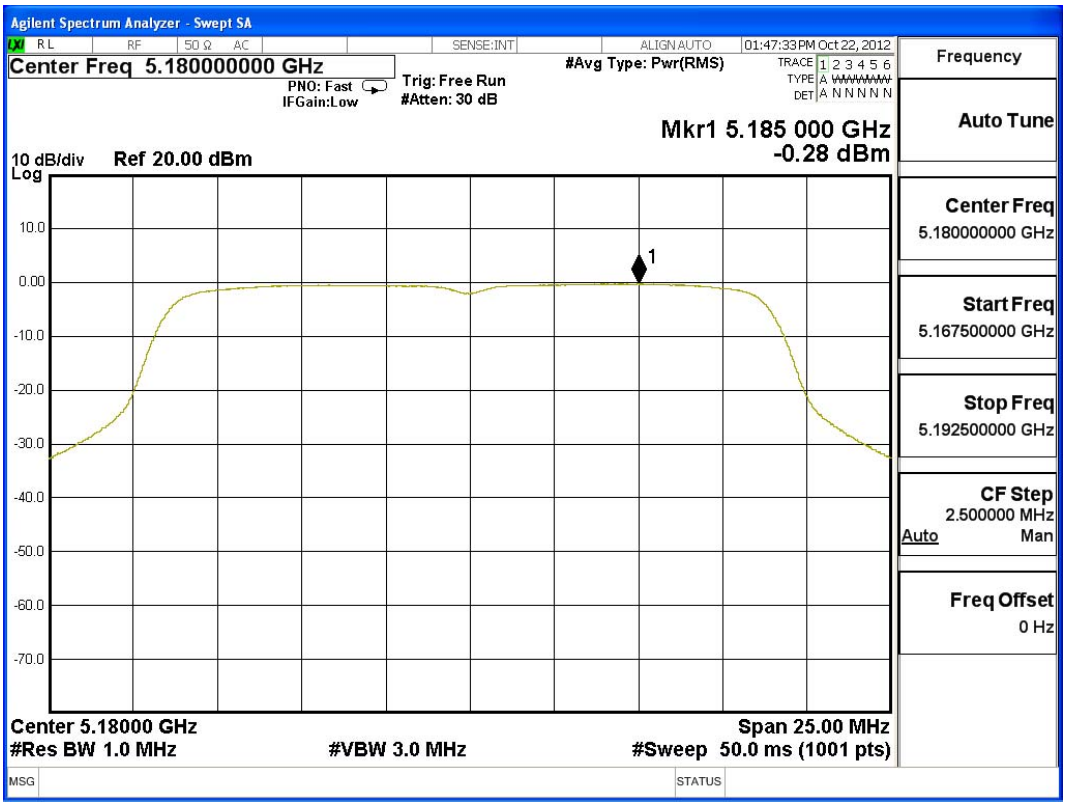
Channel 44 – Chain A



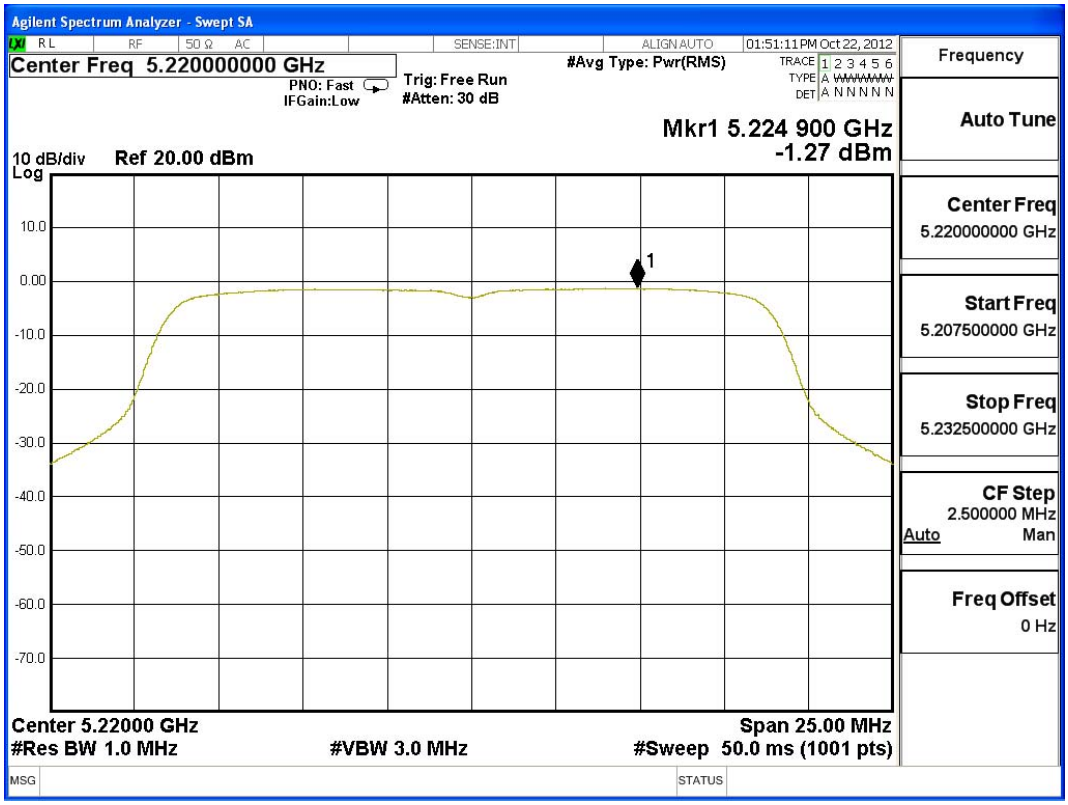
Channel 48 – Chain A



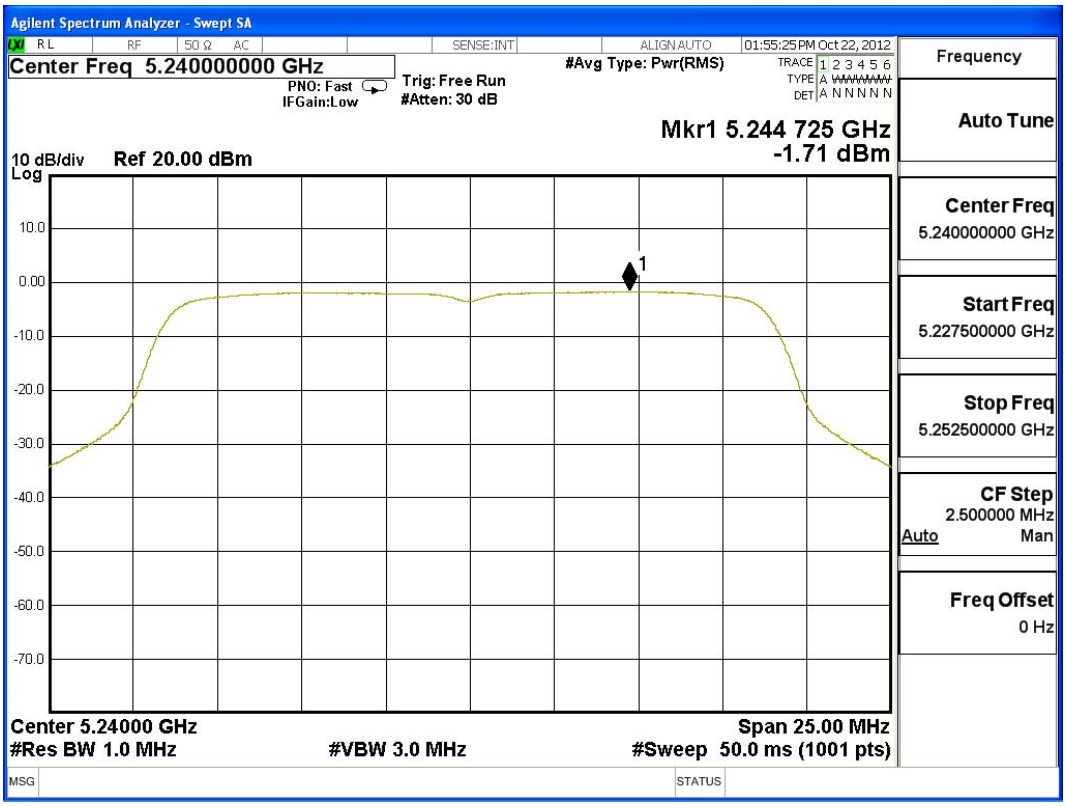
Channel 36 – Chain B



Channel 44 – Chain B



Channel 48 – Chain B



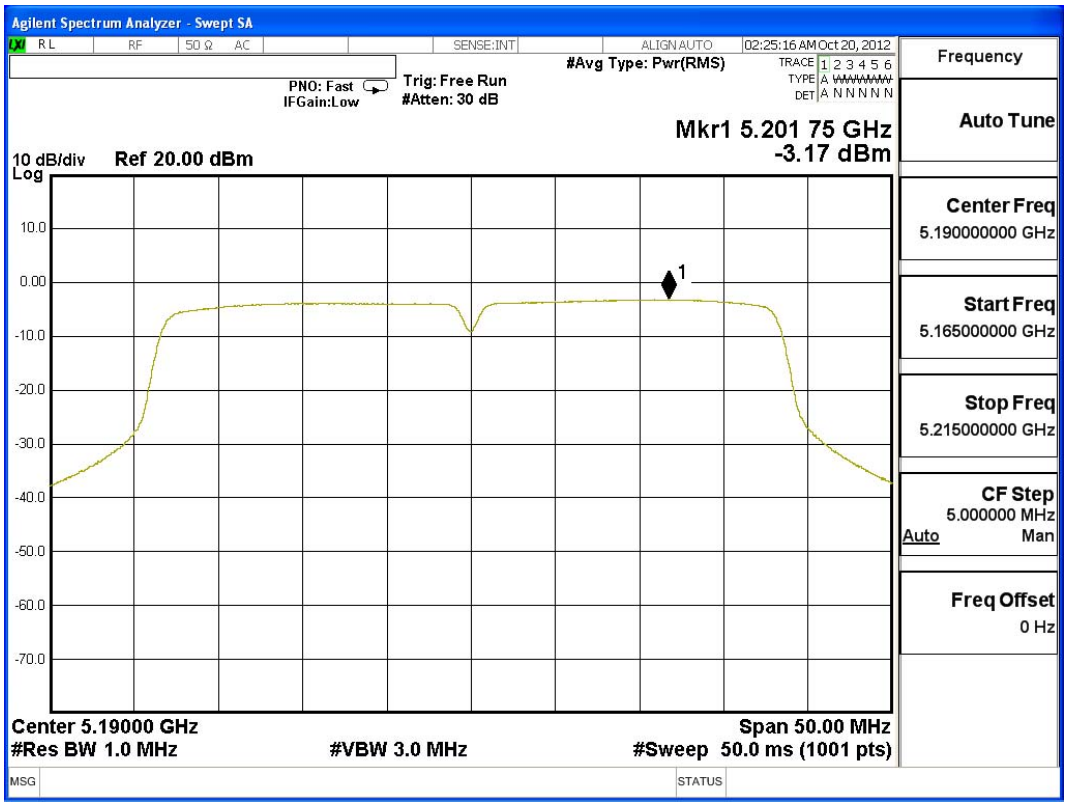
Product : SpectraGuardR Access Point / Sensor
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps)(Dipole Antenna)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Measurement Level (dBm)	Required Limit (dBm)	Result
38	5190	-3.170	-3.780	-0.454	<4	Pass
46	5230	-2.900	-4.410	-0.579	<4	Pass

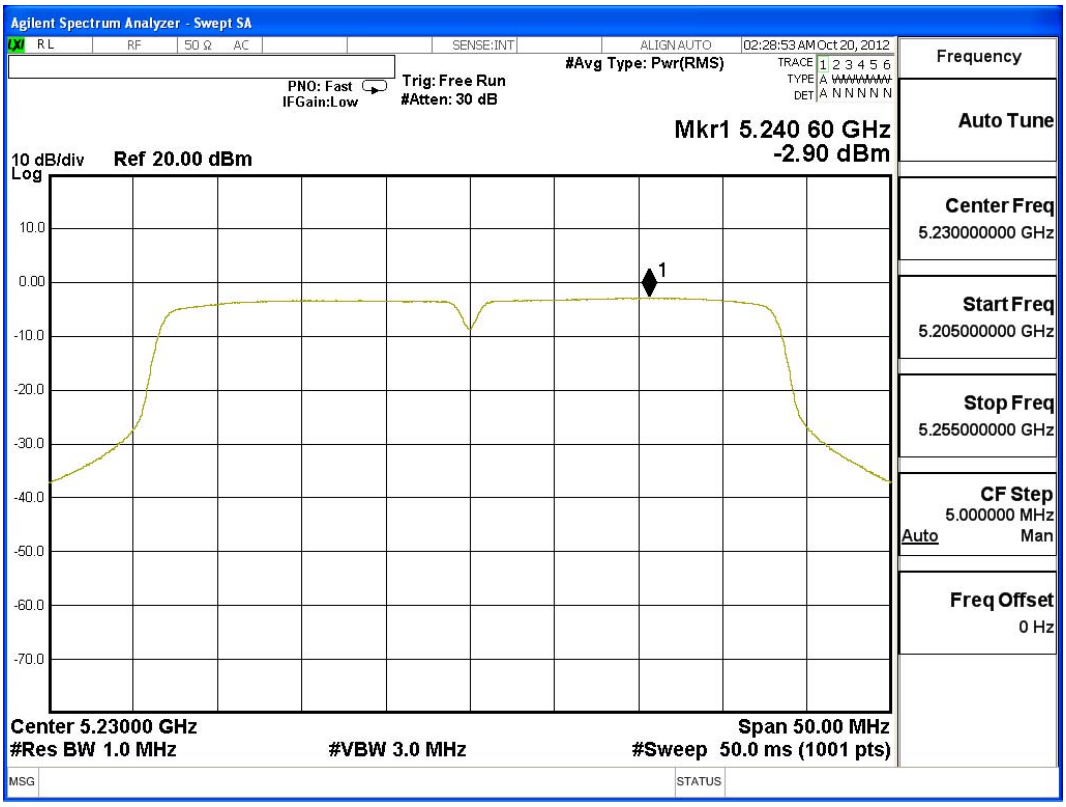
Note:

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

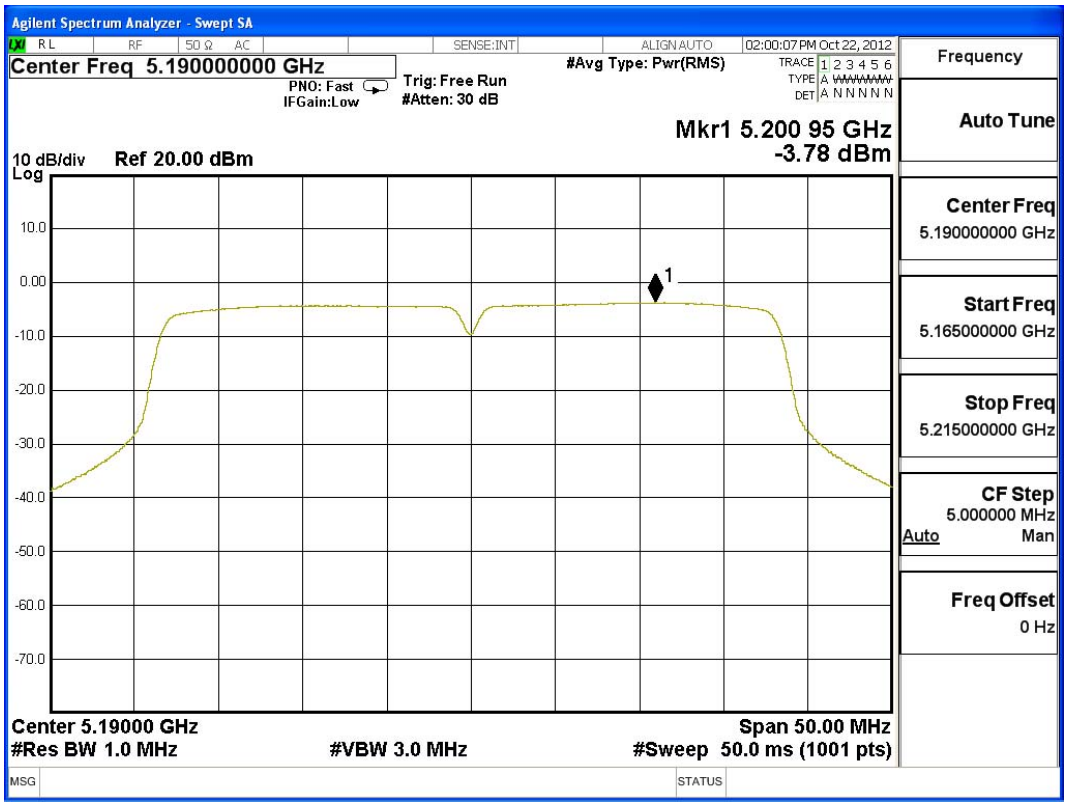
Channel 38 – Chain A



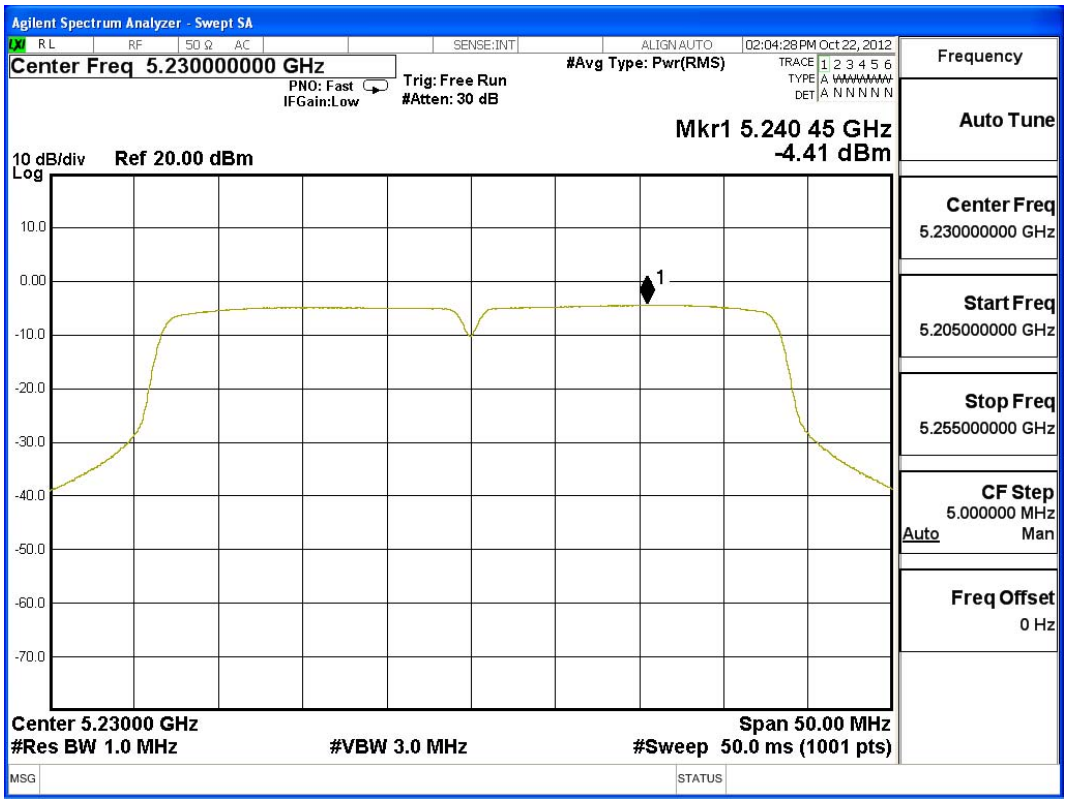
Channel 46 – Chain A



Channel 38 – Chain B



Channel 46 – Chain B



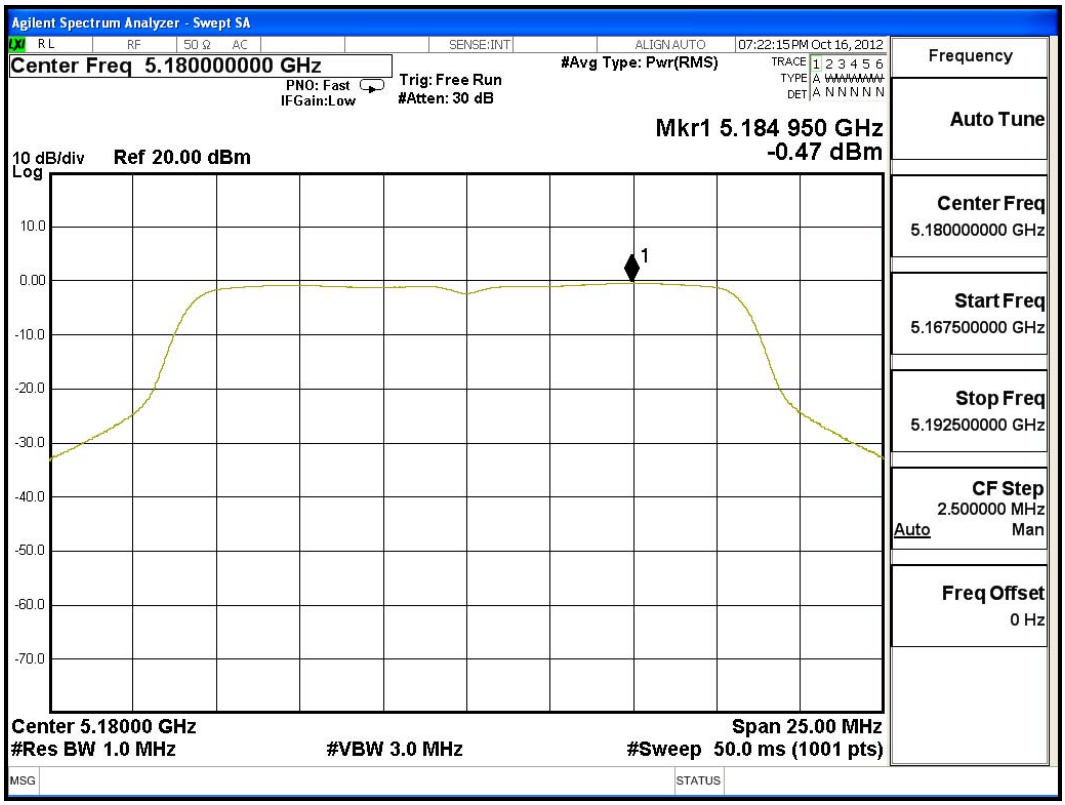
Product : SpectraGuardR Access Point / Sensor
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11a-6Mbps)(PIFA Antenna)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	-0.470	0.500	3.052	<4	Pass
44	5220	-0.740	-1.060	2.113	<4	Pass
48	5240	-0.230	-0.470	2.662	<4	Pass

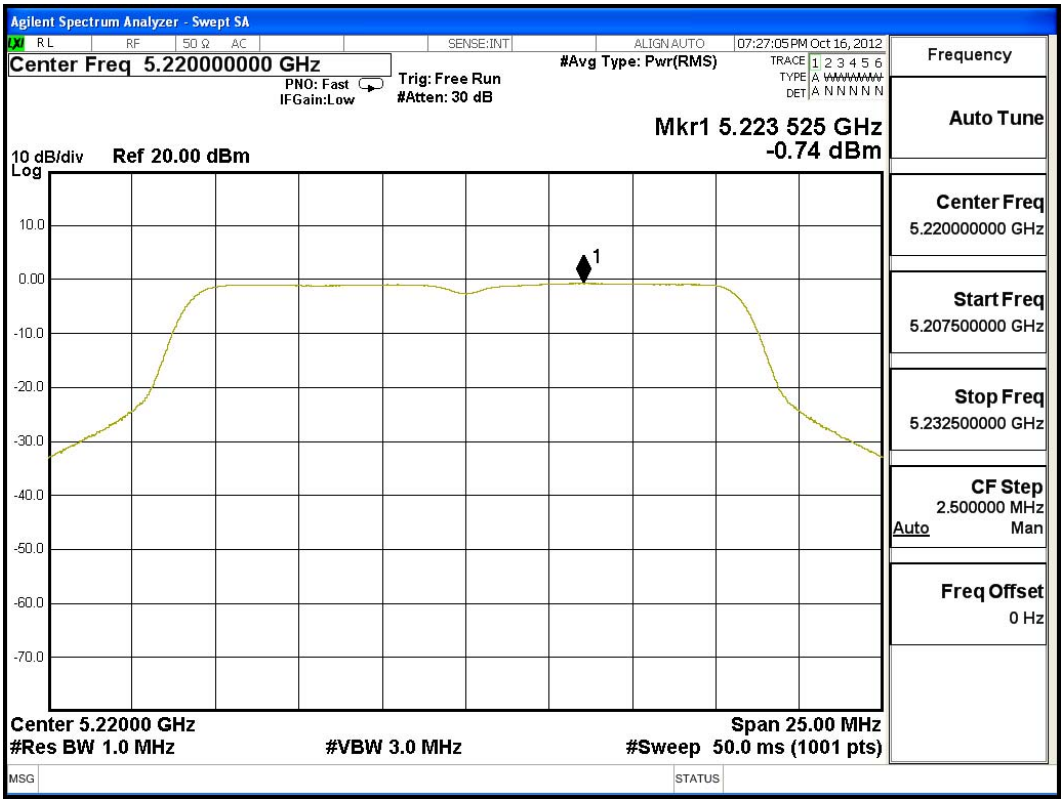
Note:

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

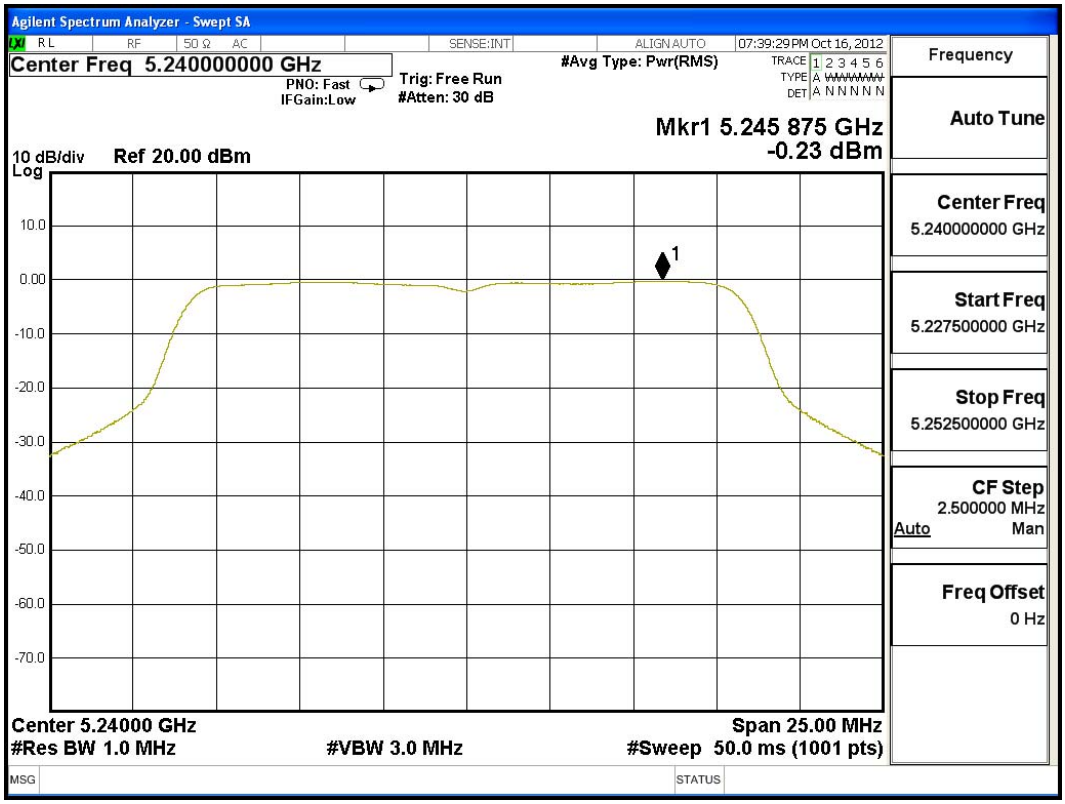
Channel 36: CHAIN A



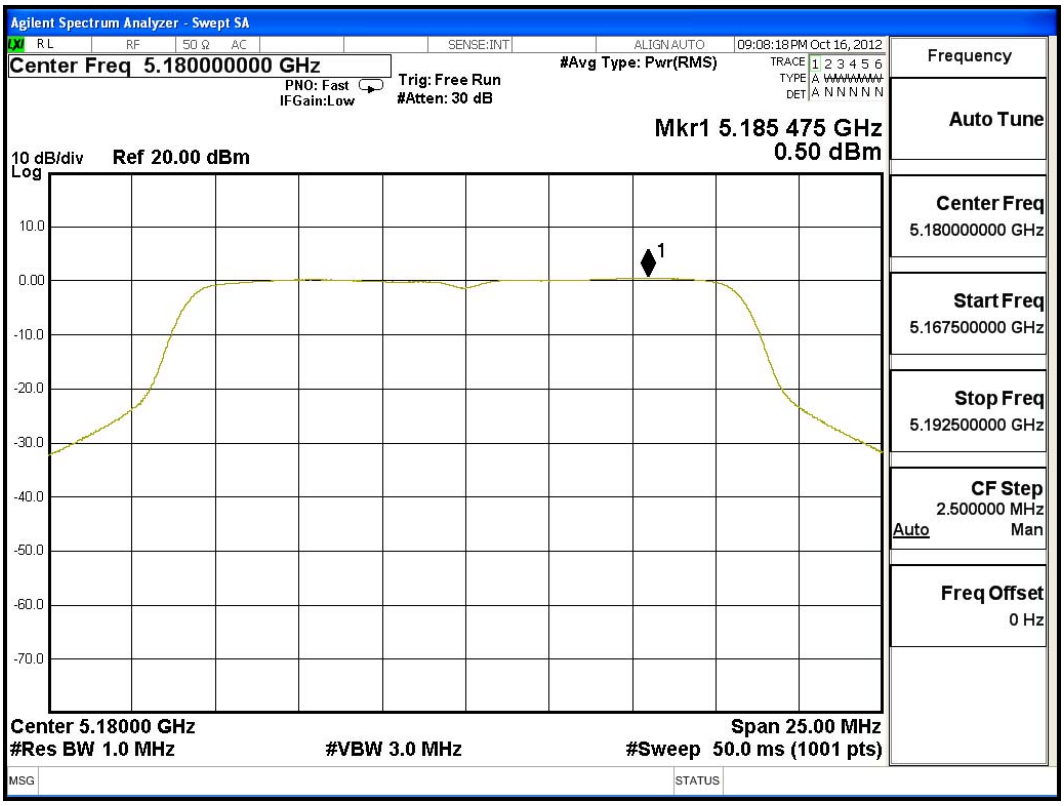
Channel 44: CHAIN A



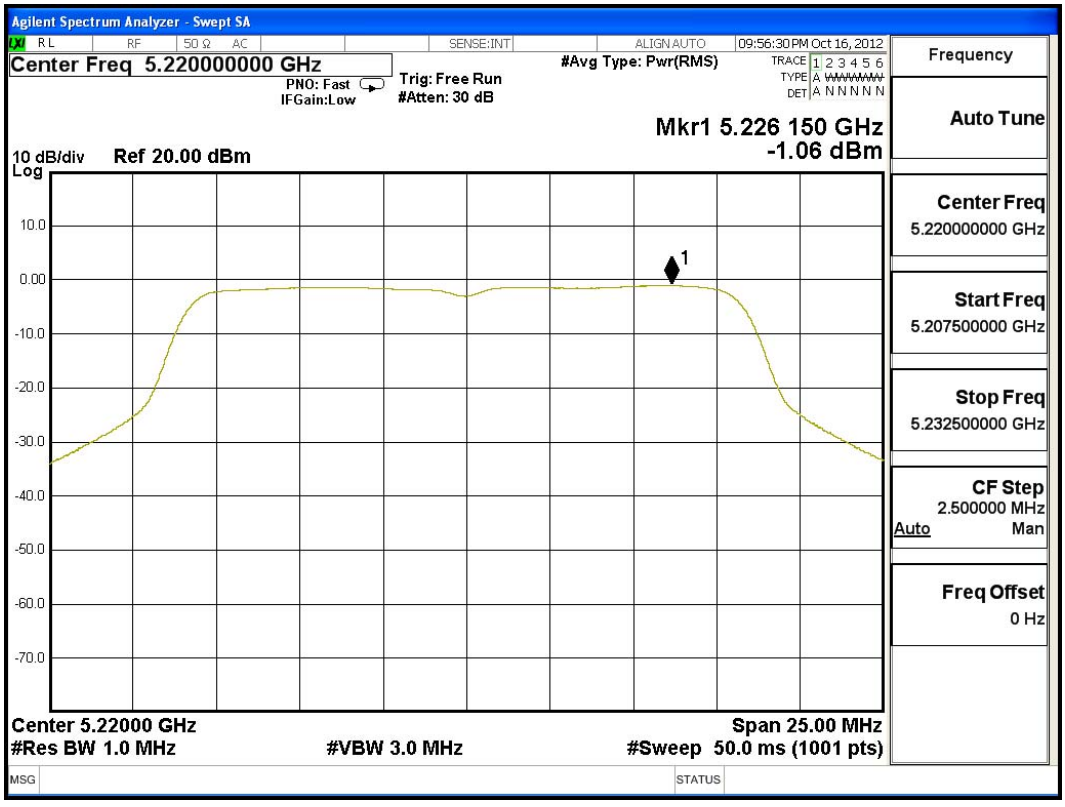
Channel 48: CHAIN A



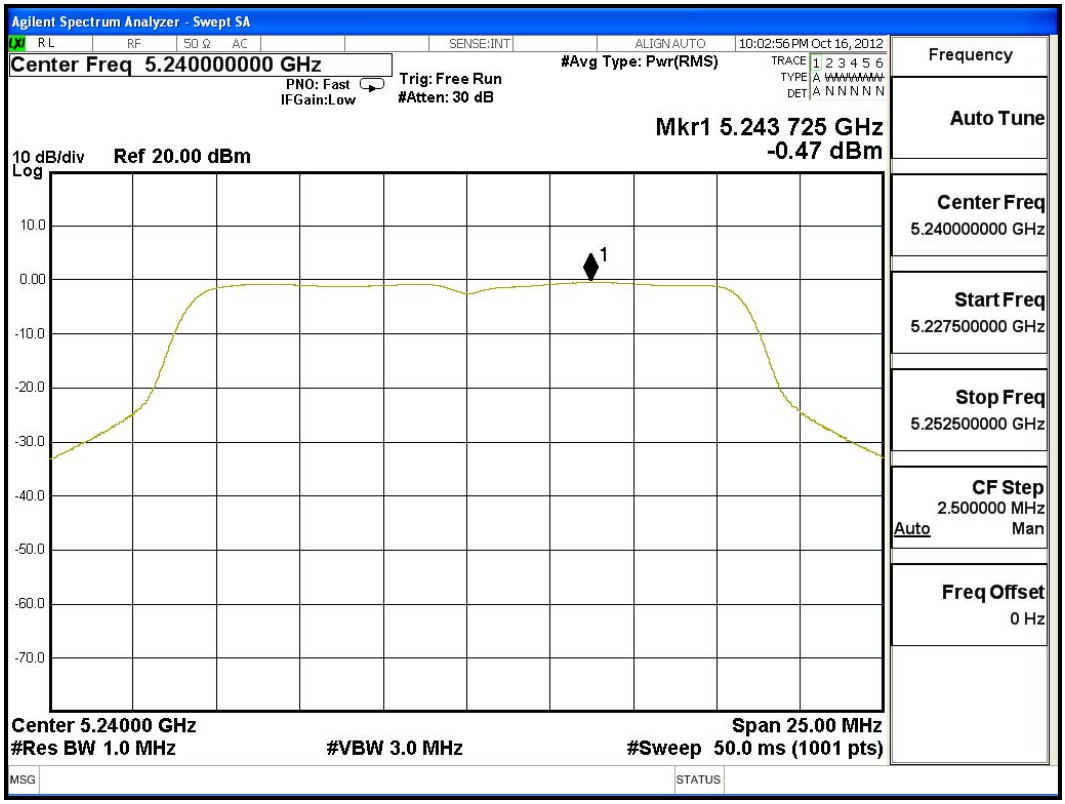
Channel 36: CHAIN B



Channel 44: CHAIN B



Channel 48: CHAIN B



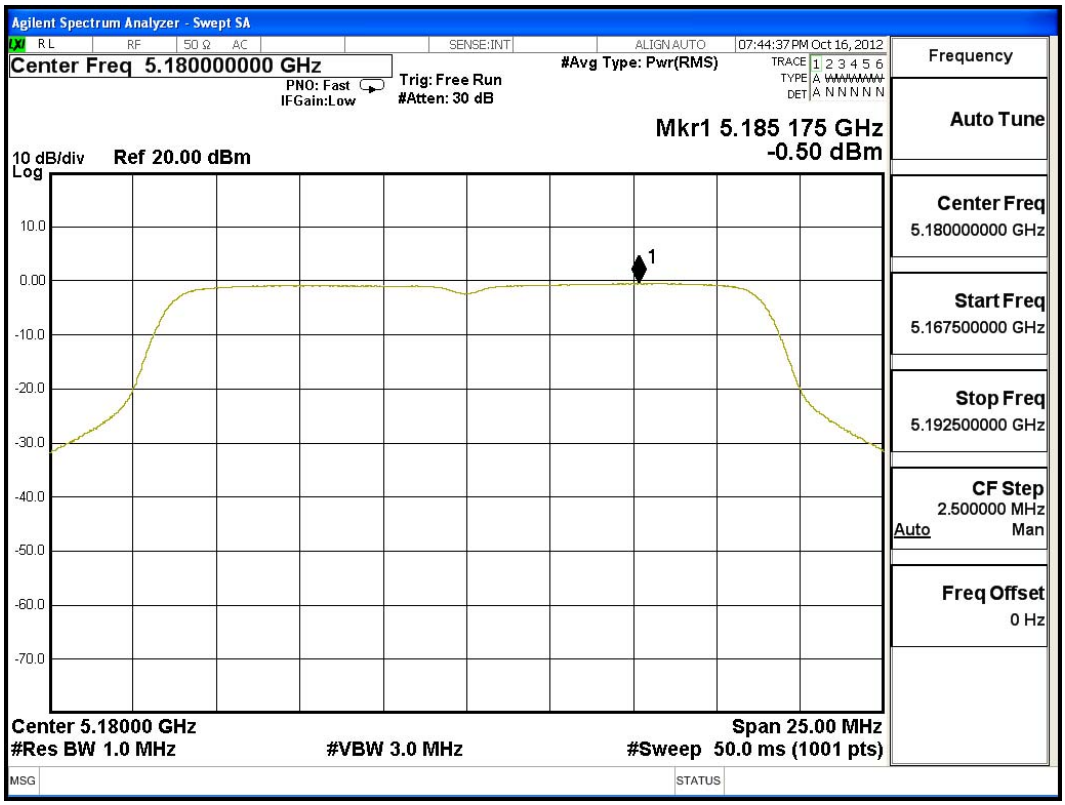
Product : SpectraGuardR Access Point / Sensor
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit (802.11n-20BW 14.4Mbps)(PIFA Antenna)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Measurement Level (dBm)	Required Limit (dBm)	Result
36	5180	-0.500	0.270	2.912	<4	Pass
44	5220	-0.100	-0.080	2.920	<4	Pass
48	5240	0.100	-0.400	2.867	<4	Pass

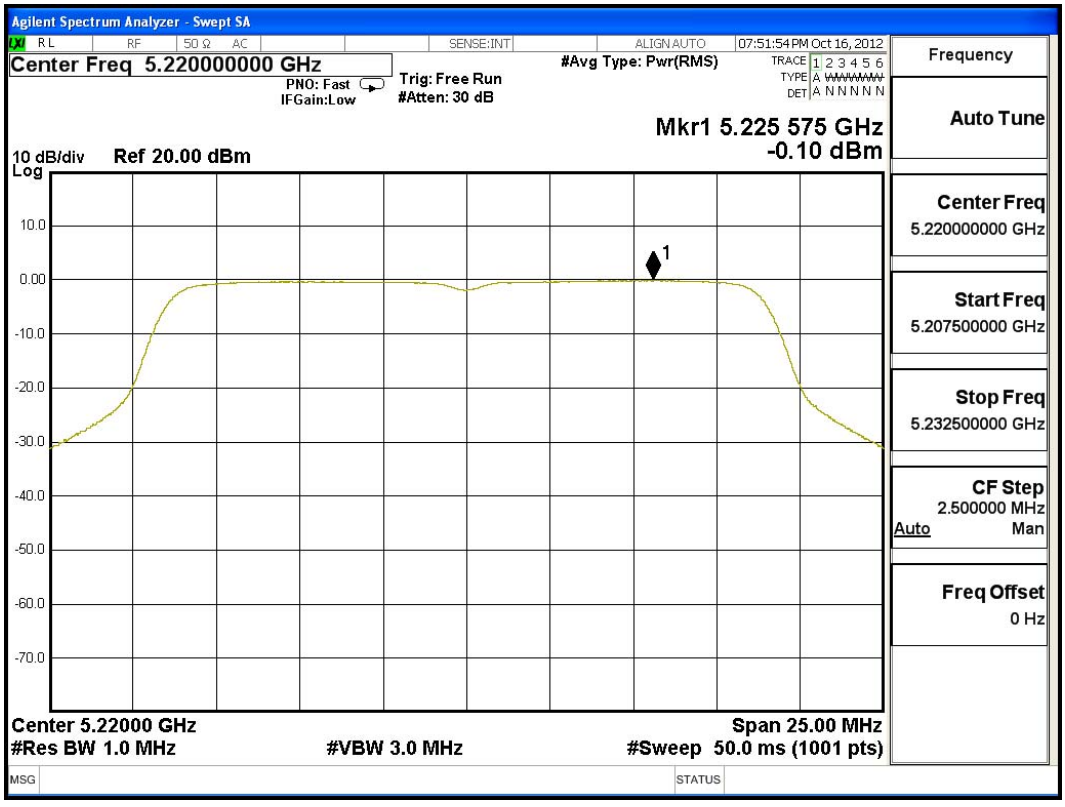
Note:

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

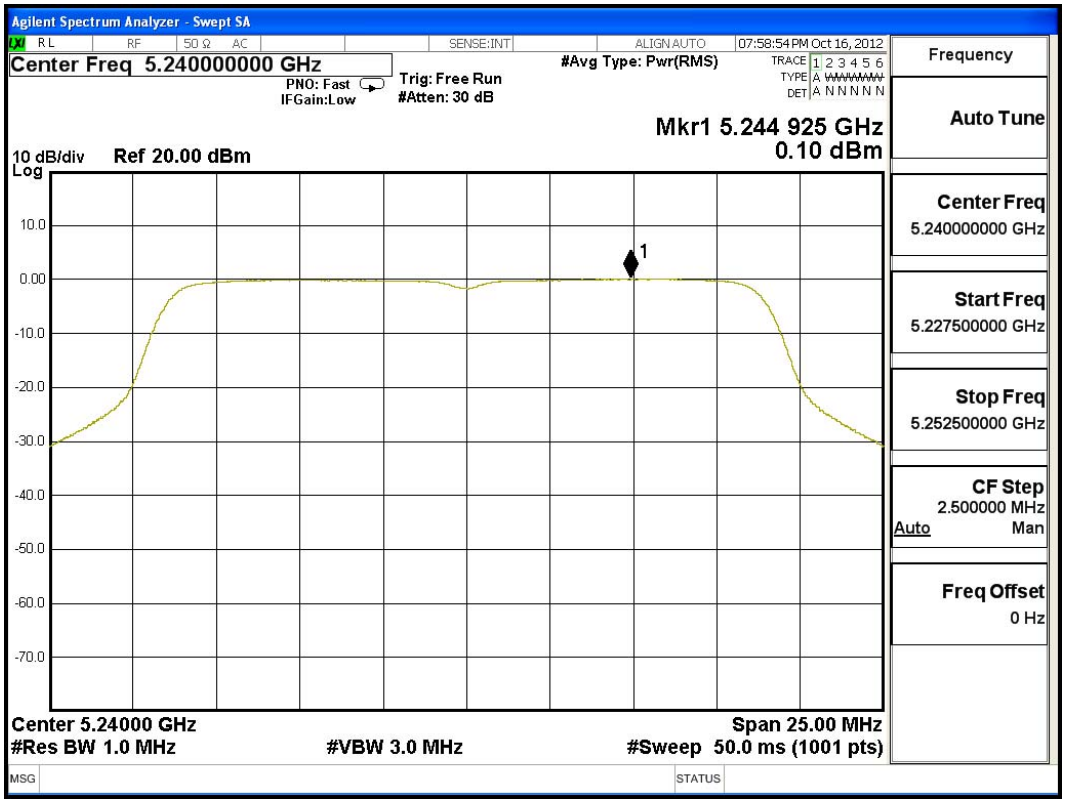
Channel 36 – Chain A



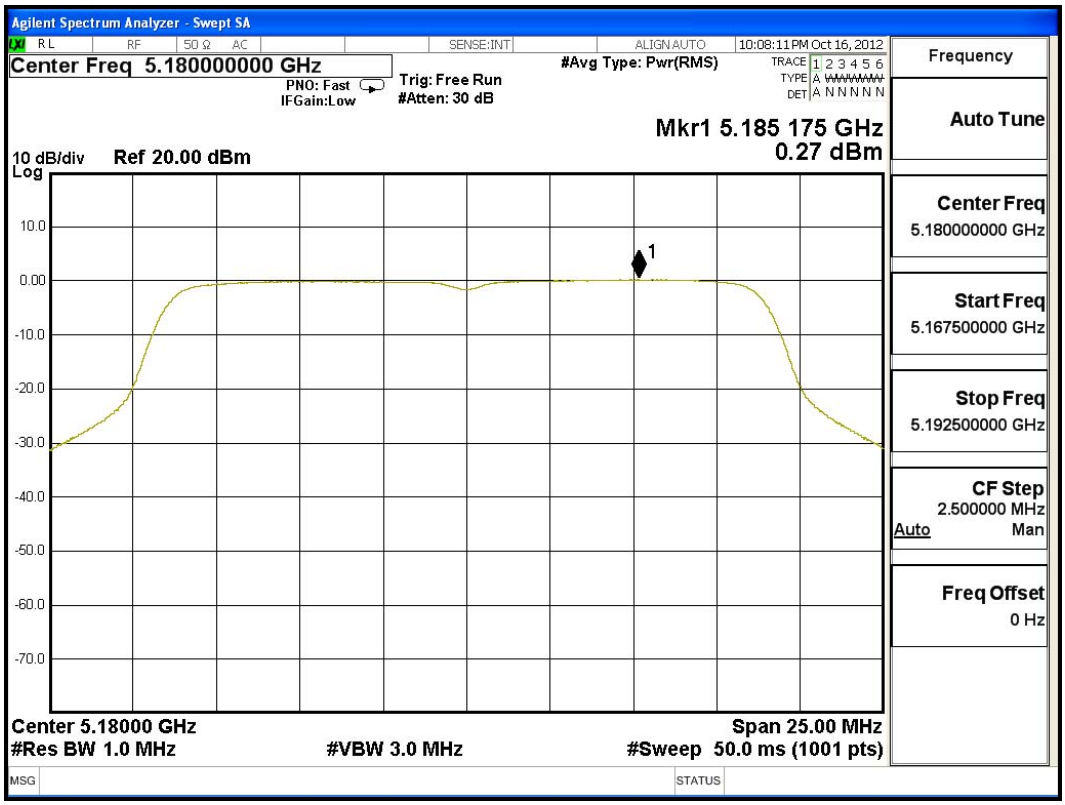
Channel 44 – Chain A



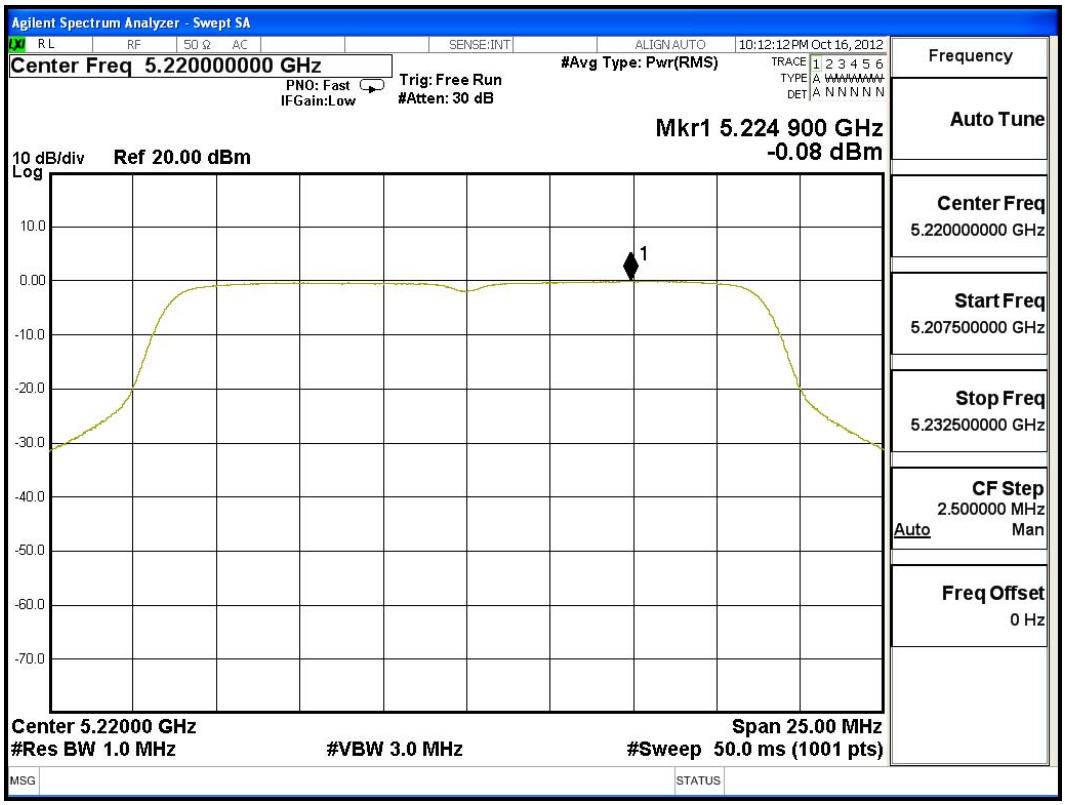
Channel 48 – Chain A



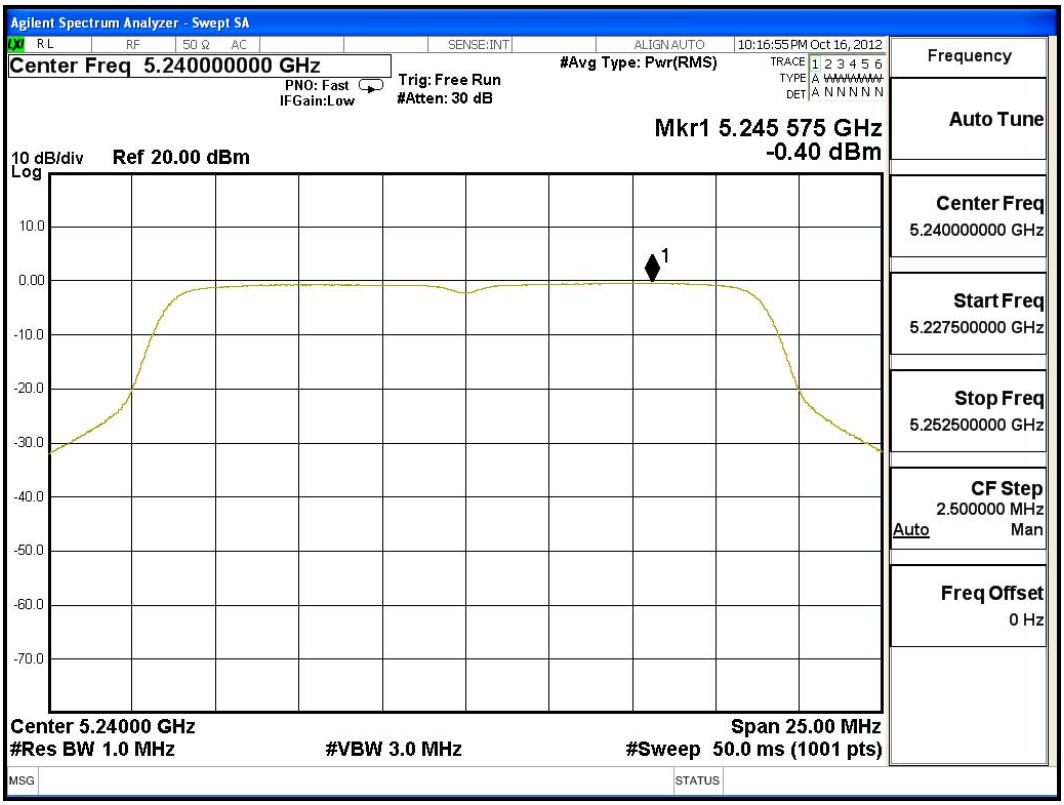
Channel 36 – Chain B



Channel 44 – Chain B



Channel 48 – Chain B



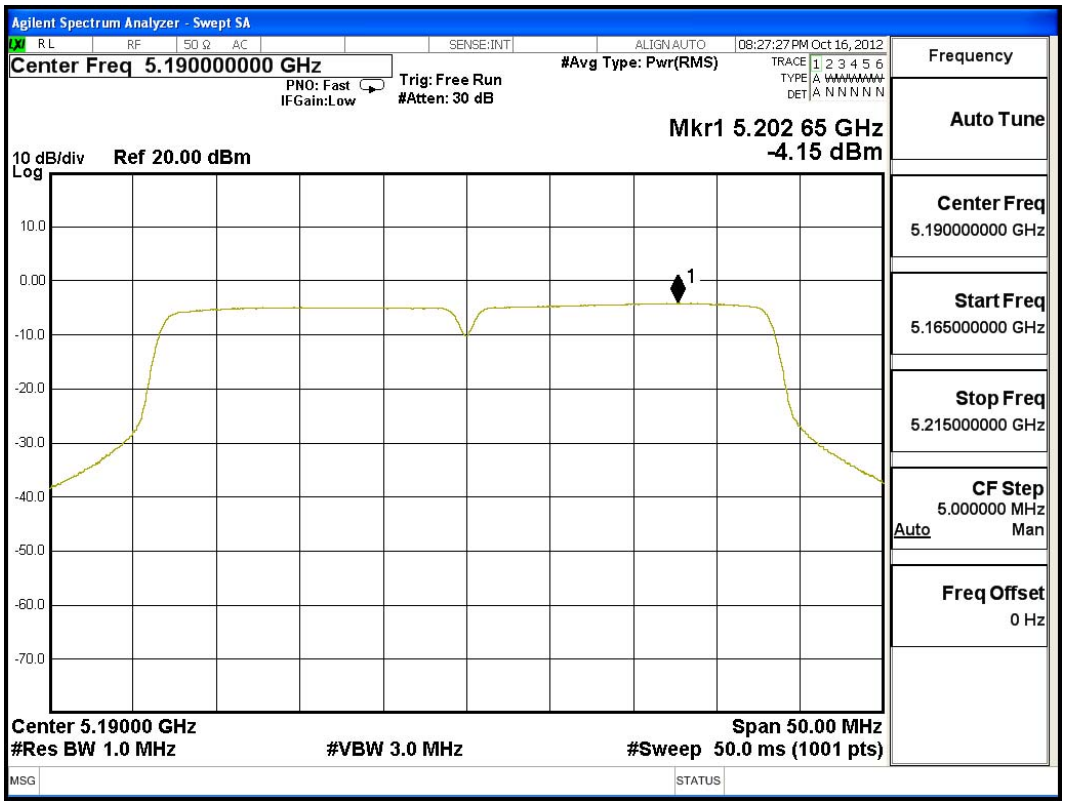
Product : SpectraGuardR Access Point / Sensor
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit (802.11n-40BW 30Mbps)(PIFA Antenna)

Channel Number	Frequency (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Measurement Level (dBm)	Required Limit (dBm)	Result
38	5190	-4.150	-3.320	-0.705	<4	Pass
46	5230	-3.250	-3.540	-0.382	<4	Pass

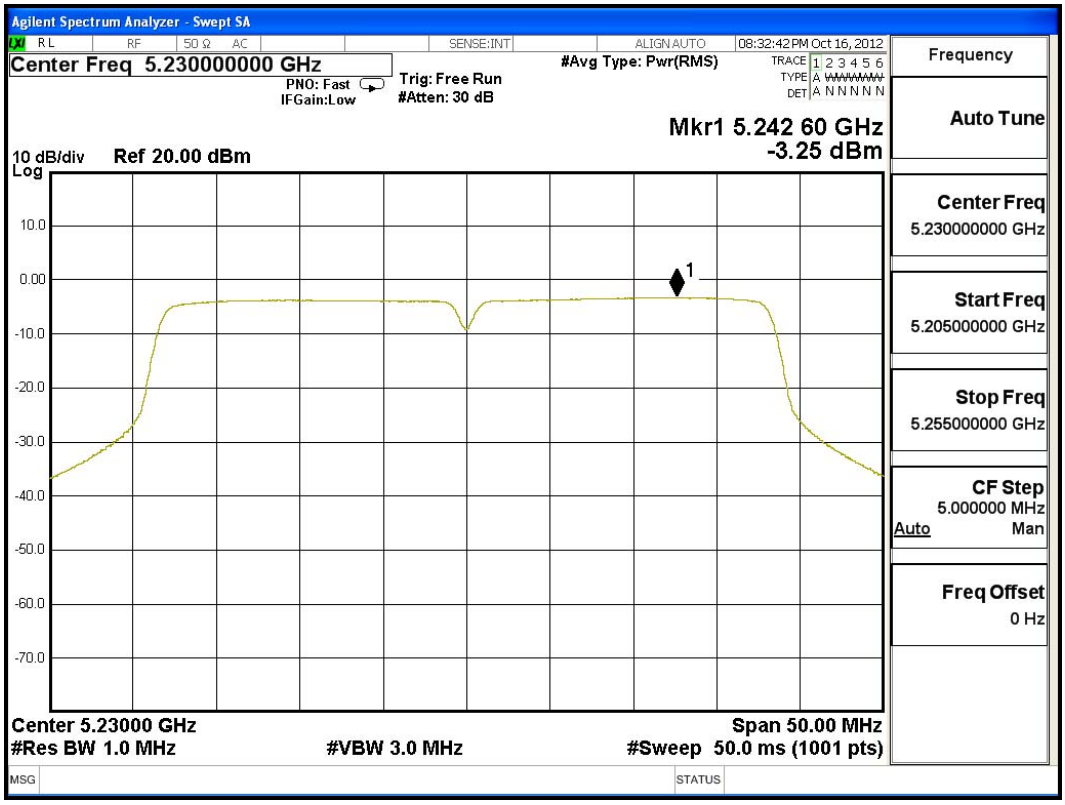
Note:

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

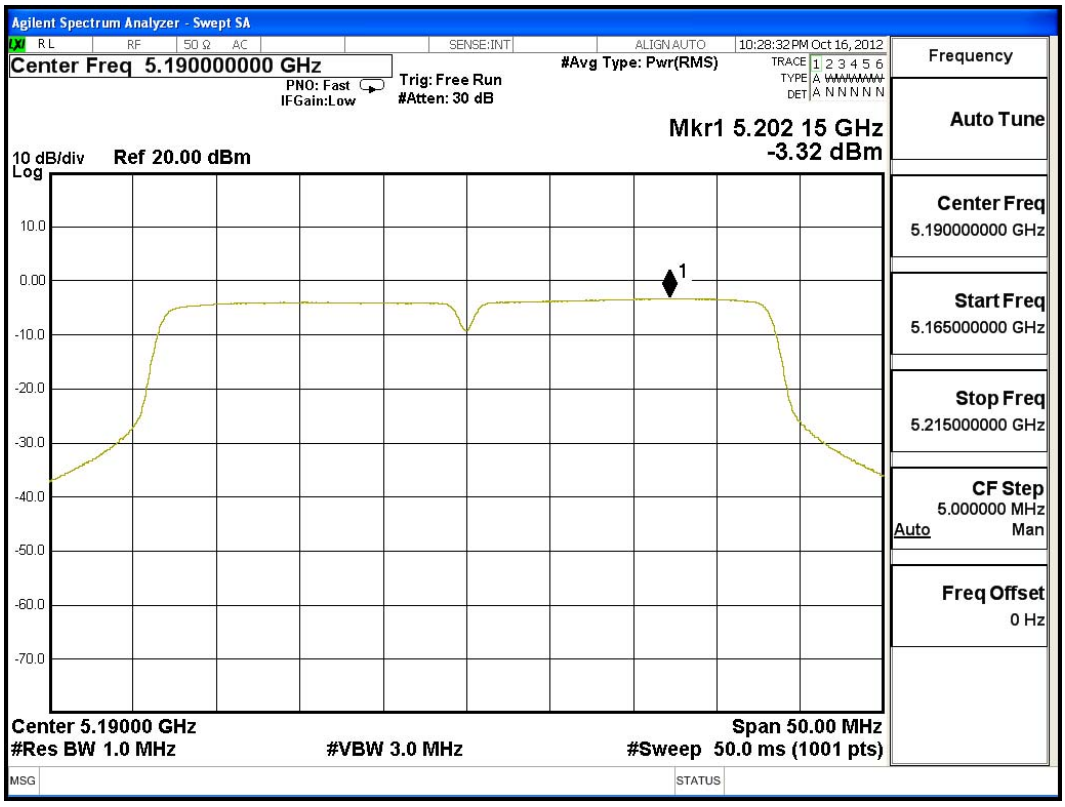
Channel 38 – Chain A



Channel 46 – Chain A



Channel 38 – Chain B



Channel 46 – Chain B