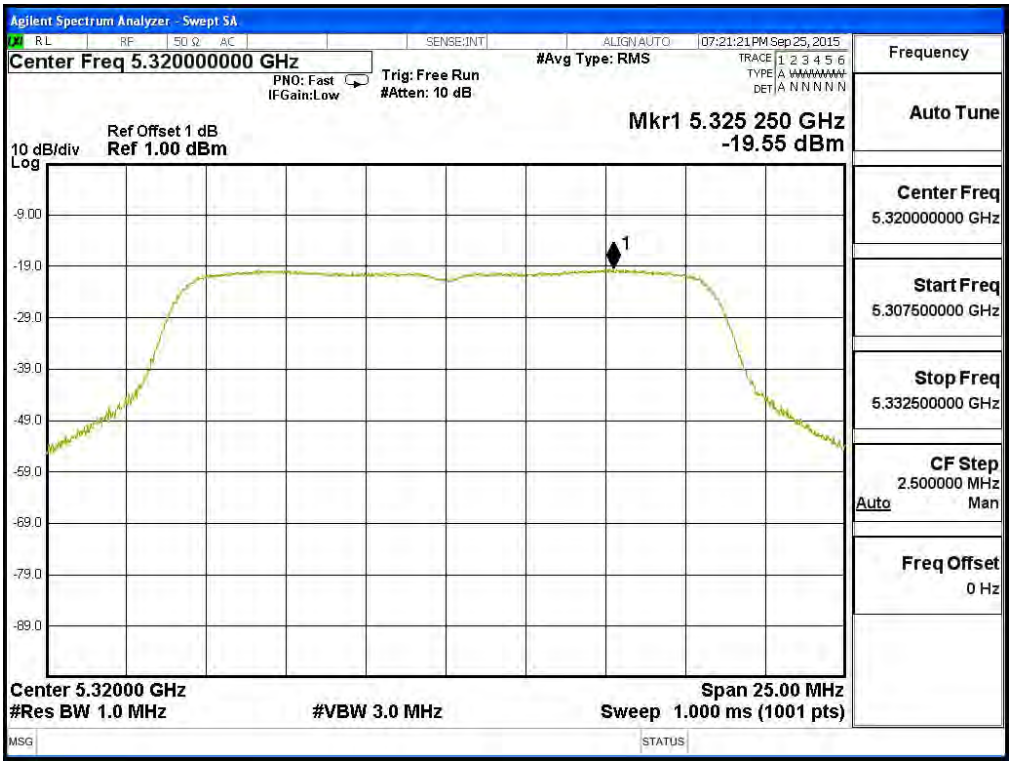
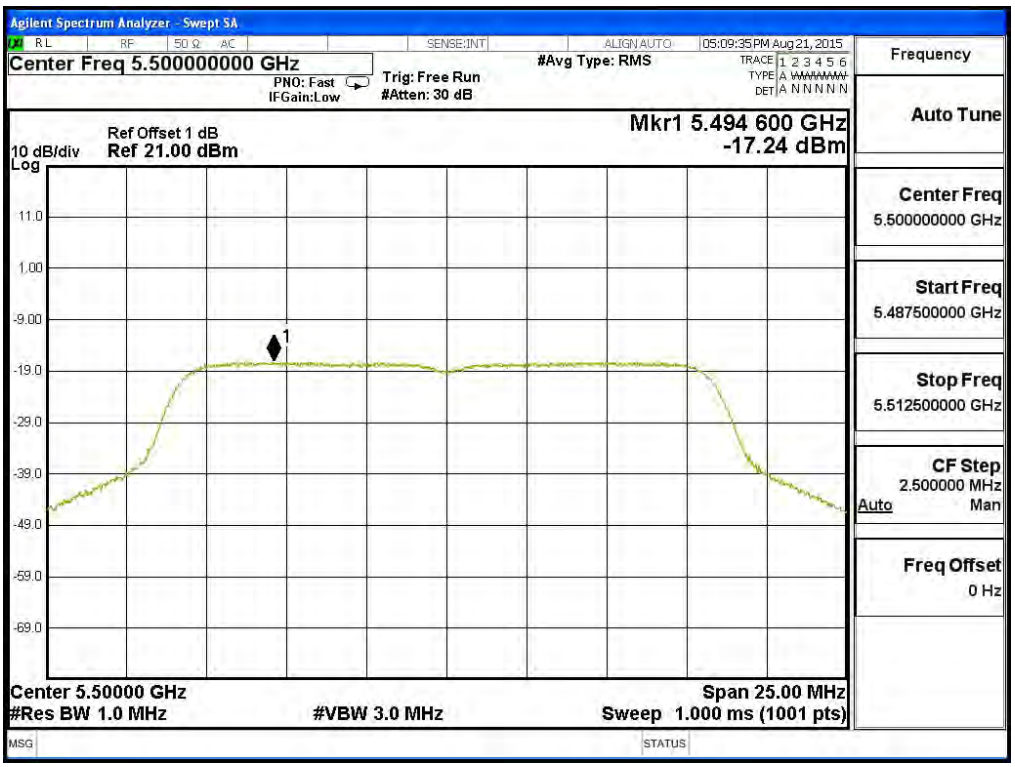
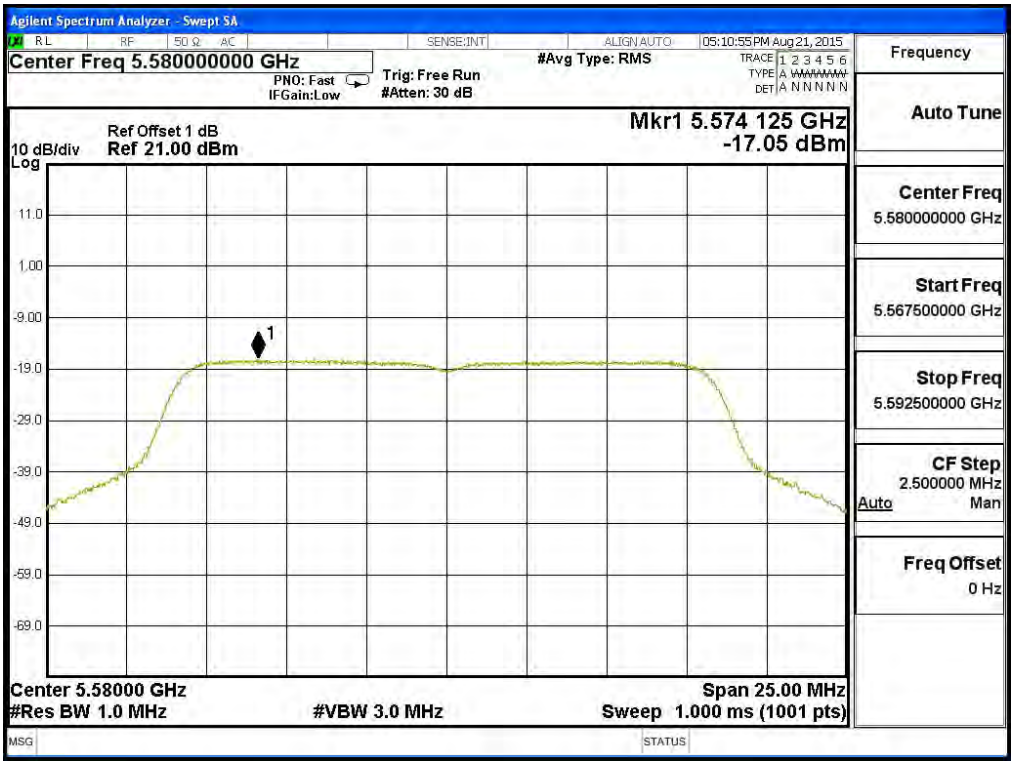
Channel 64: (Chain A)



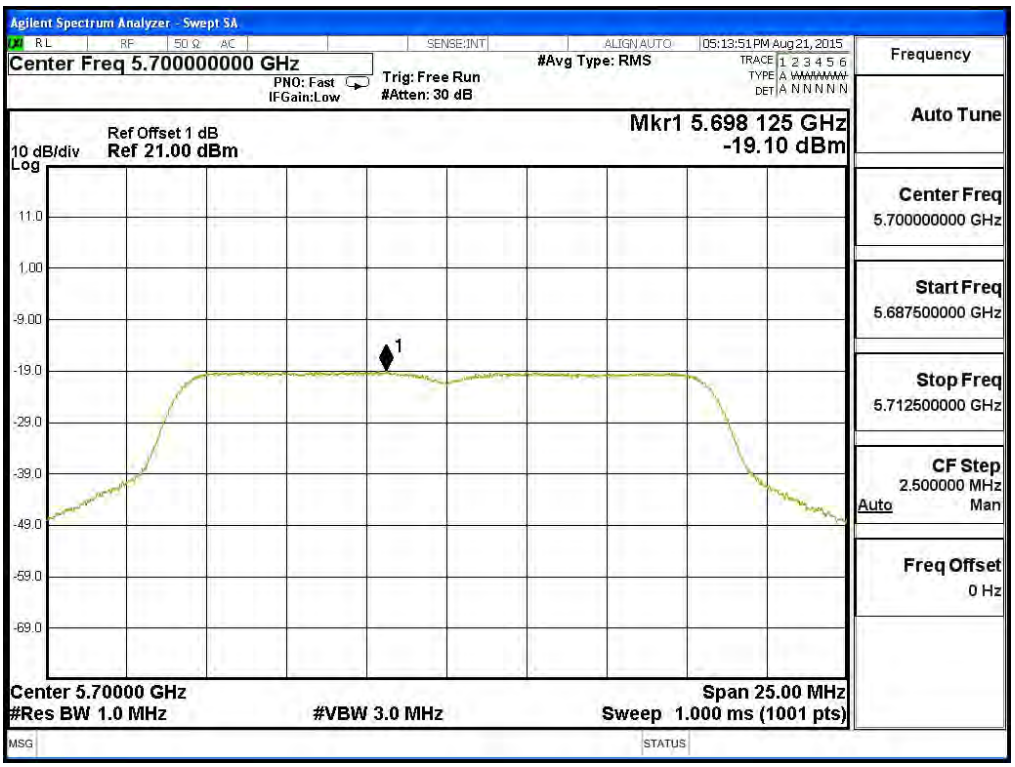
Channel 100: (Chain A)



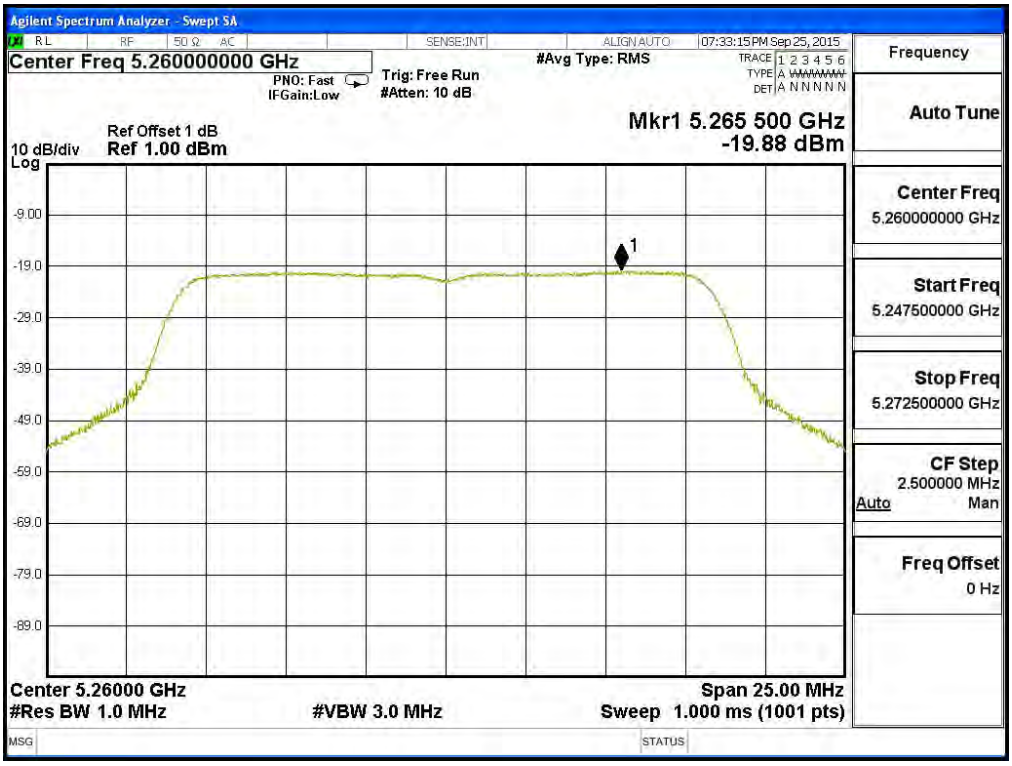
Channel 116: (Chain A)



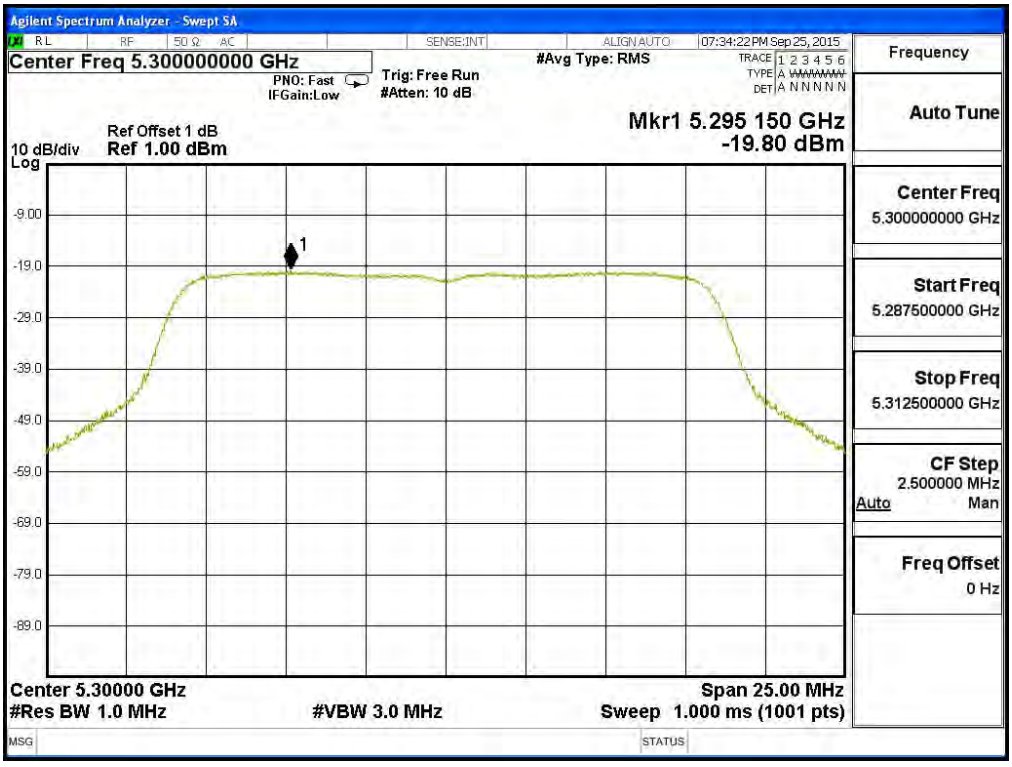
Channel 140: (Chain A)



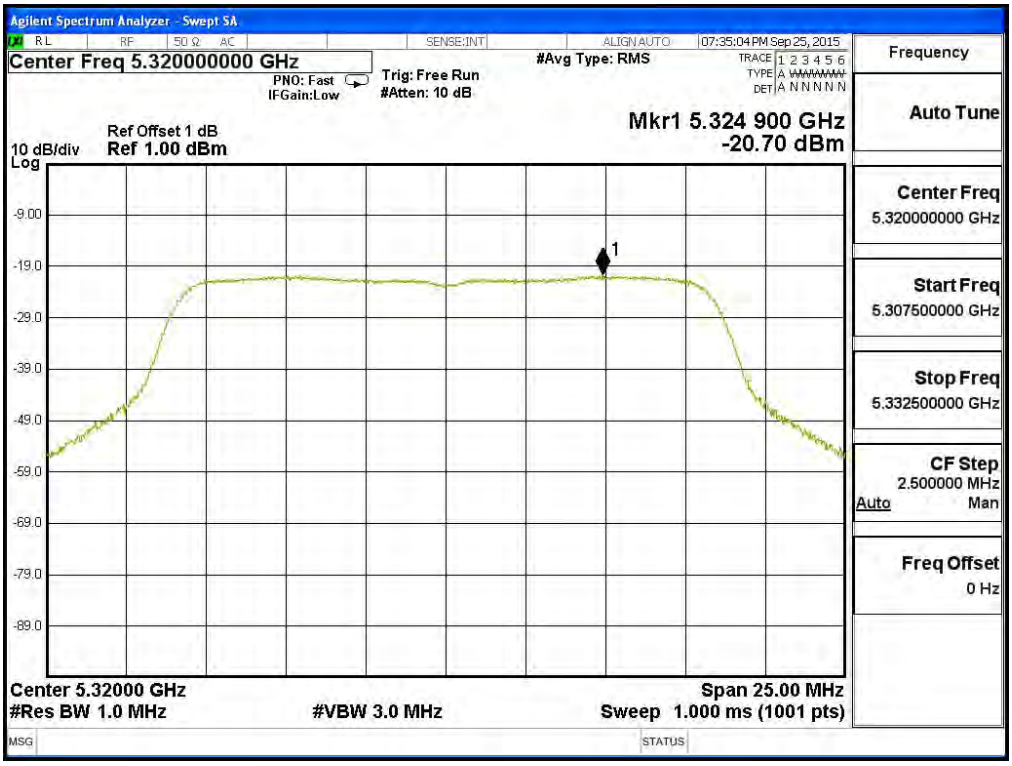
Channel 52: (Chain B)



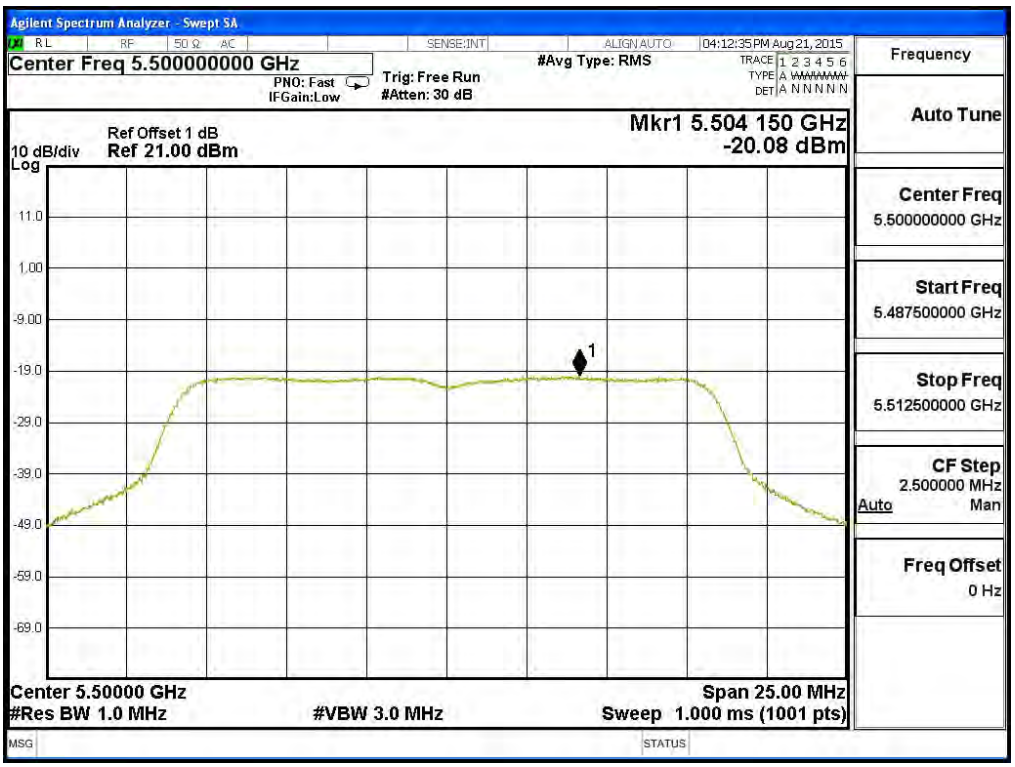
Channel 60: (Chain B)



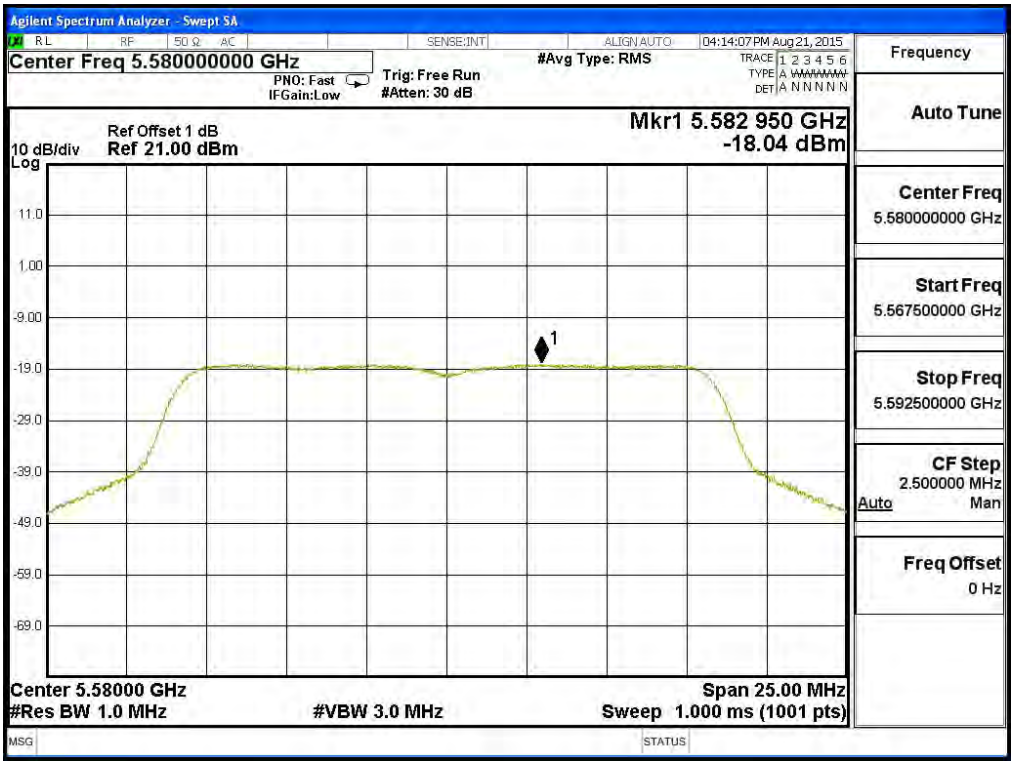
Channel 64: (Chain B)



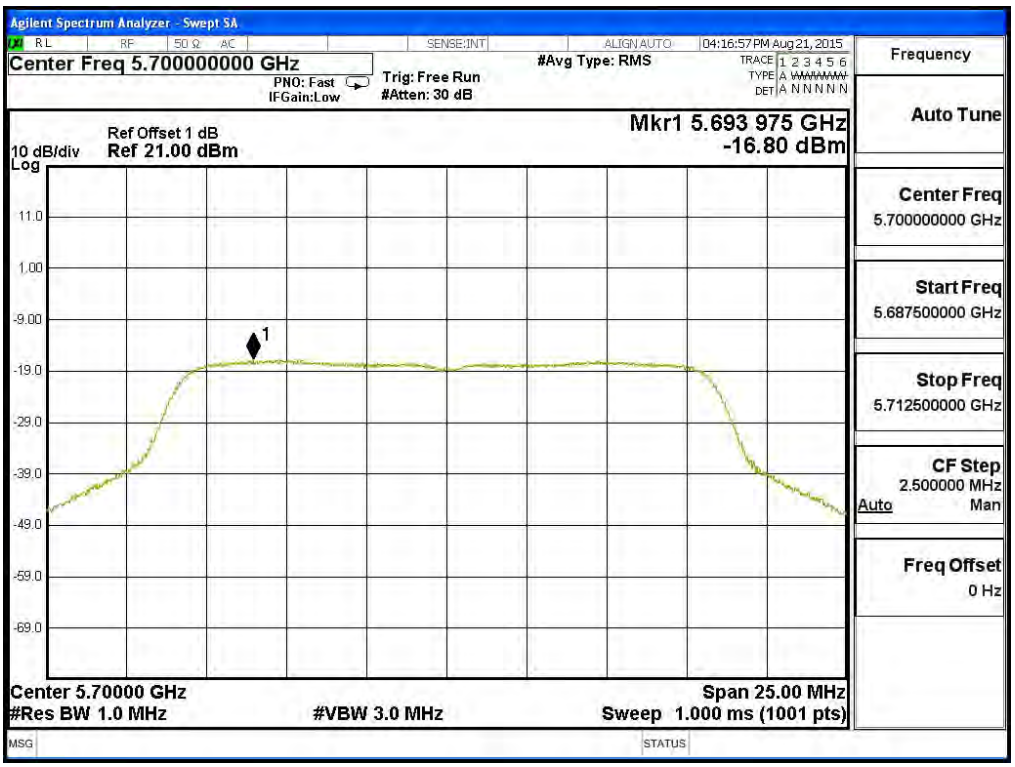
Channel 100: (Chain B)



Channel 116: (Chain B)



Channel 140: (Chain B)



Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 20: Transmit (802.11n-20BW 14.4Mbps)(Panel Antenna)

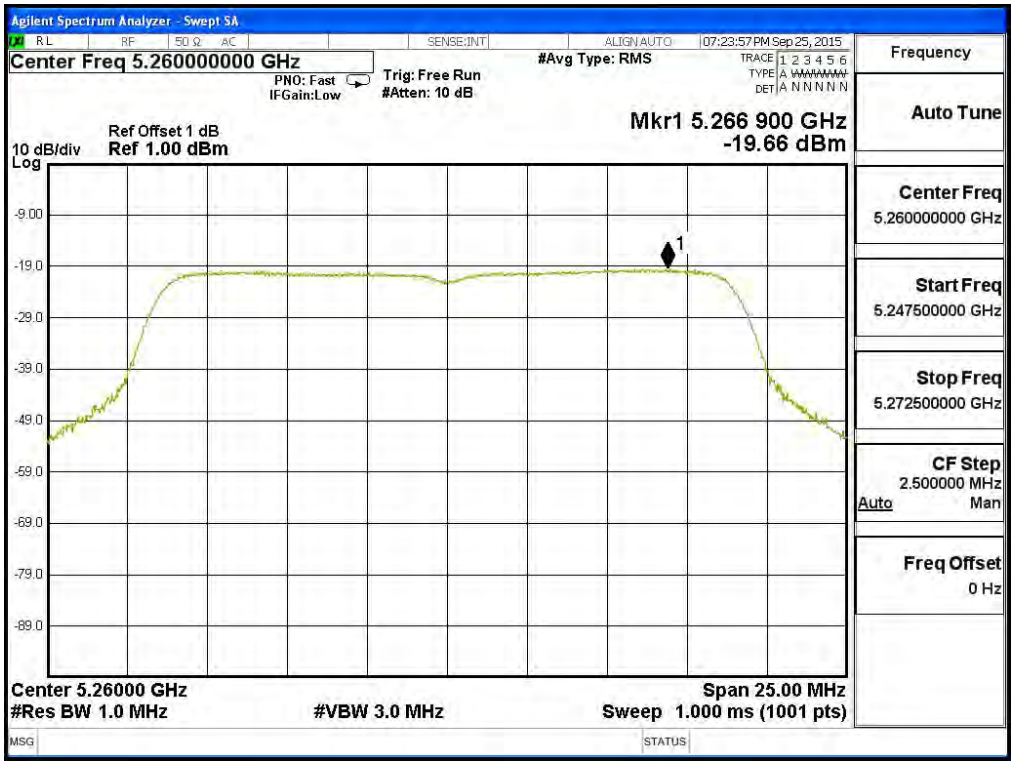
5250~5350MHz, 5470-5600 MHz and 5650-5725 MHz

Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Required Limit (dBm)	Result
52	5260	A	-19.660	-16.650	-13	Pass
		B	-20.301	-17.291	-13	Pass
60	5300	A	-19.326	-16.316	-13	Pass
		B	-19.906	-16.896	-13	Pass
64	5320	A	-20.022	-17.012	-13	Pass
		B	-21.203	-18.193	-13	Pass
100	5500	A	-16.669	-13.659	-13	Pass
		B	-19.319	-16.309	-13	Pass
116	5580	A	-16.376	-13.366	-13	Pass
		B	-17.033	-14.023	-13	Pass
140	5700	A	-19.421	-16.411	-13	Pass
		B	-17.341	-14.331	-13	Pass

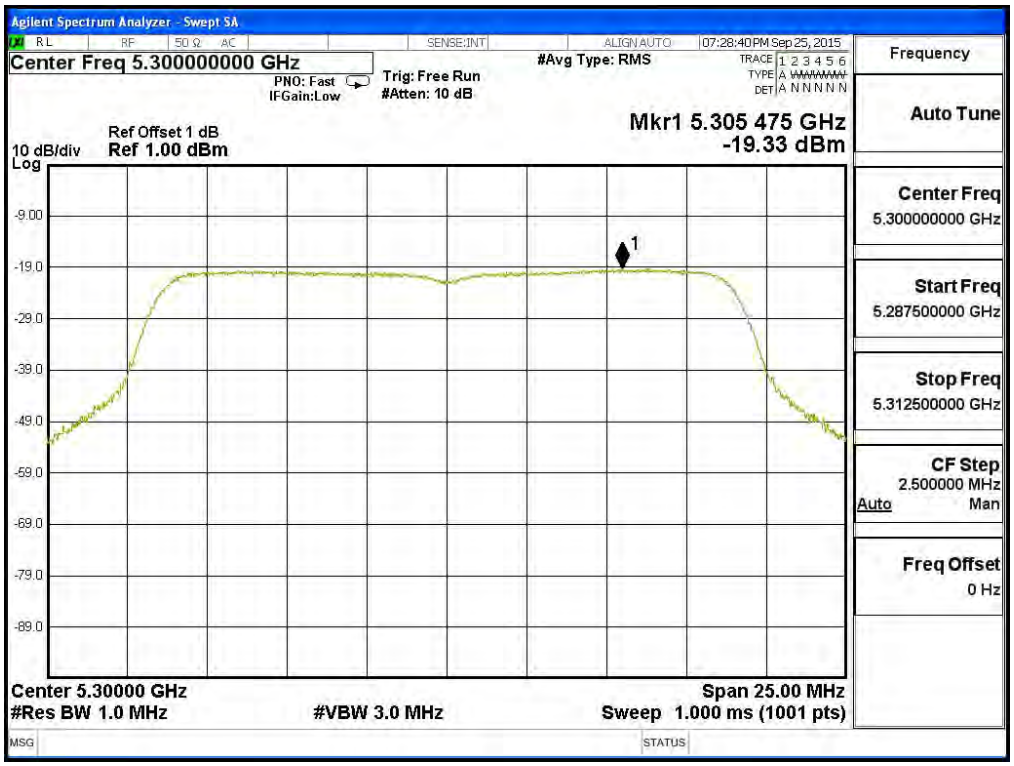
Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.
2. Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas).

.

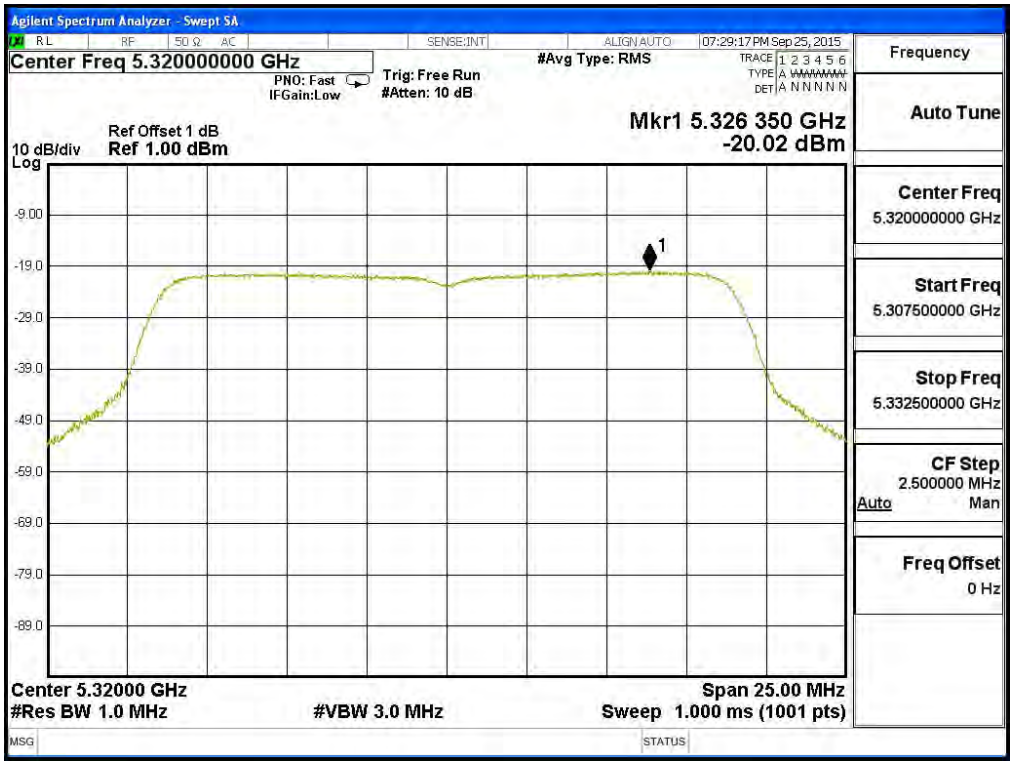
Channel 52: (Chain A)



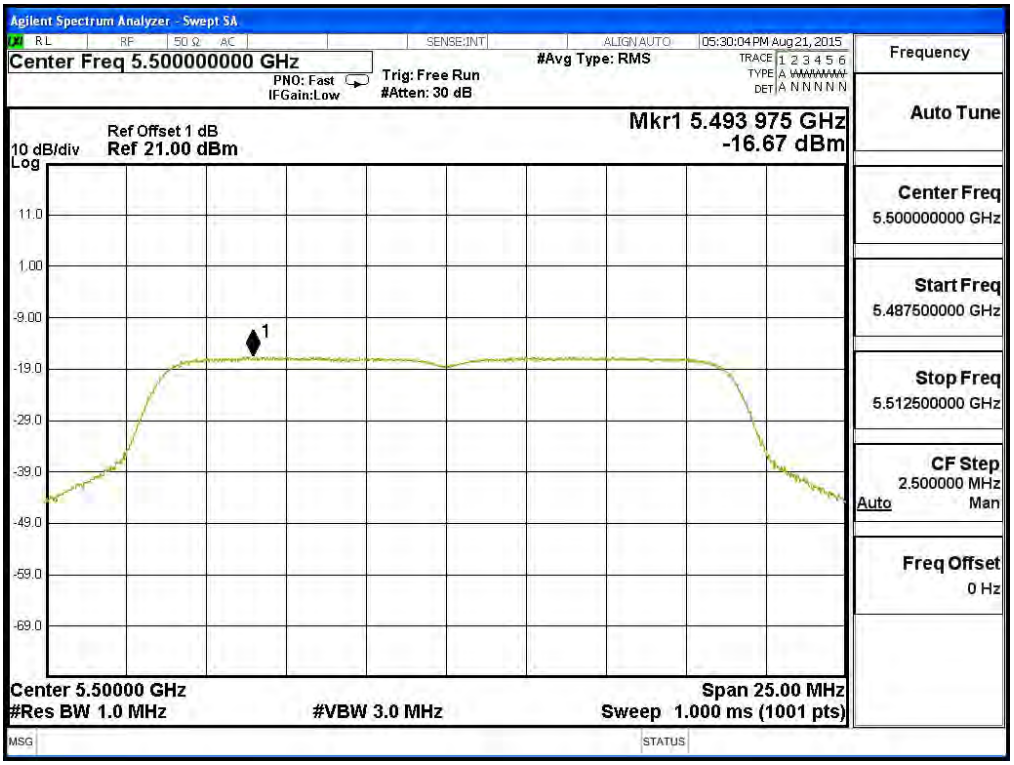
Channel 60: (Chain A)



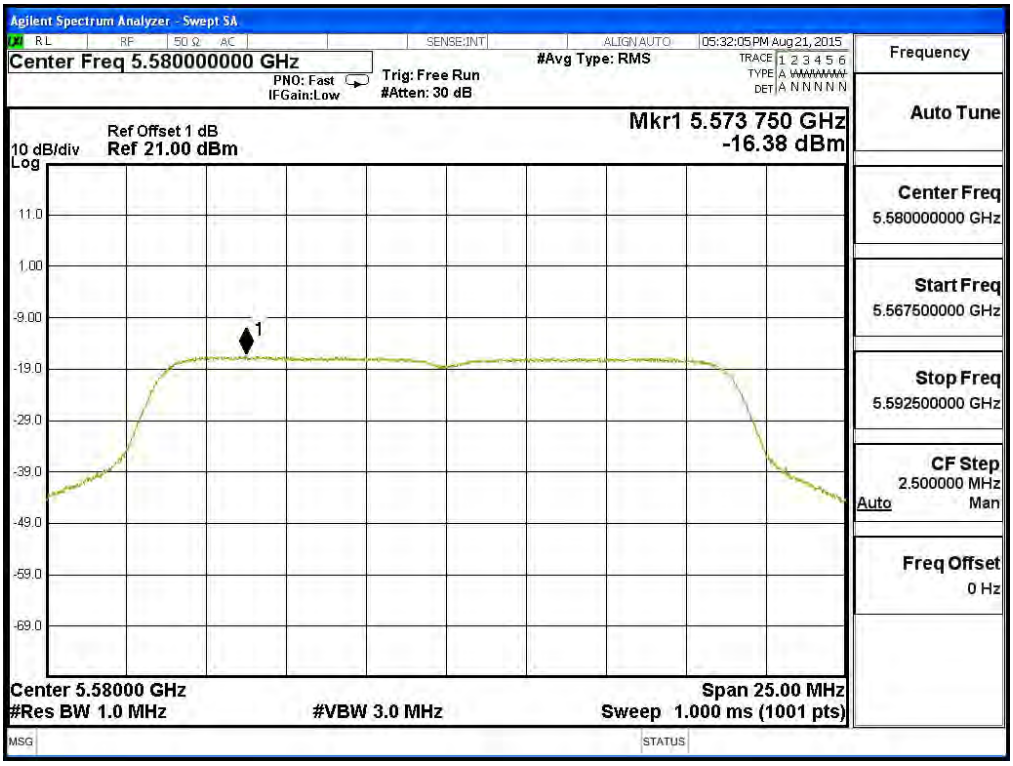
Channel 64: (Chain A)



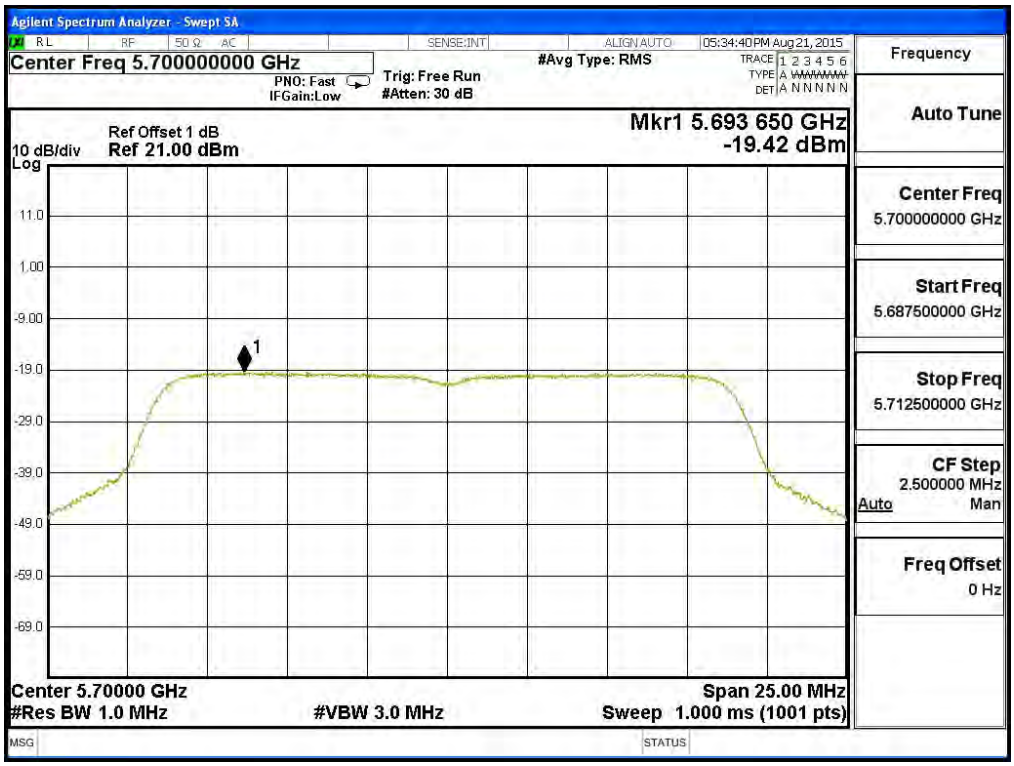
Channel 100: (Chain A)



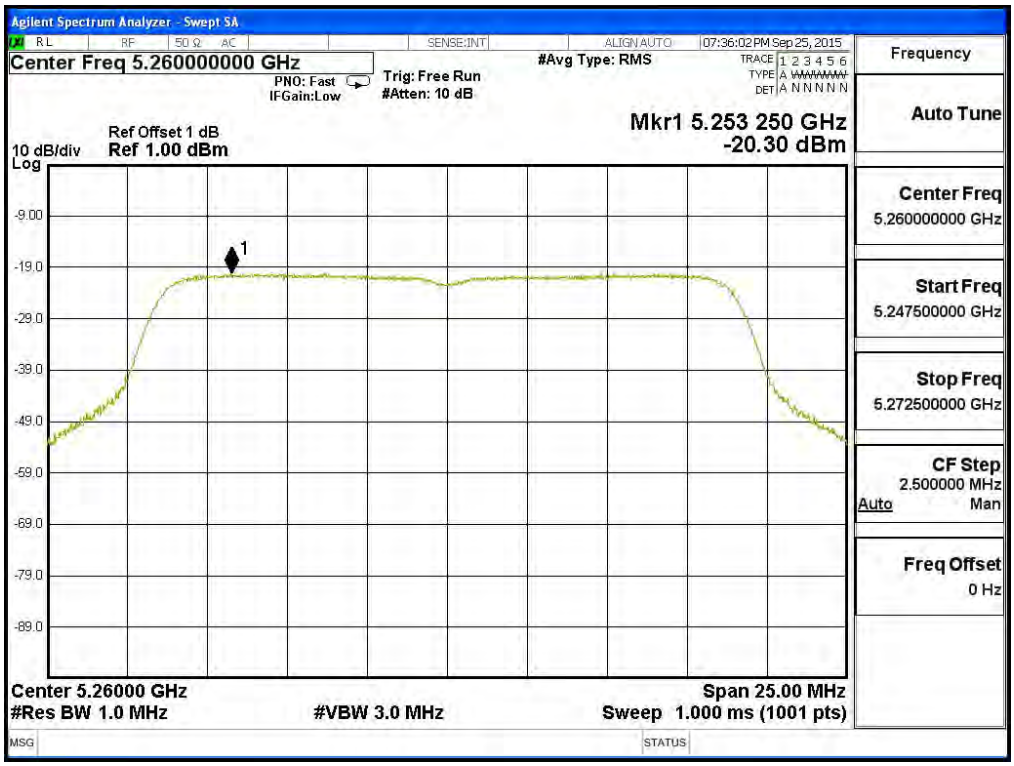
Channel 116: (Chain A)



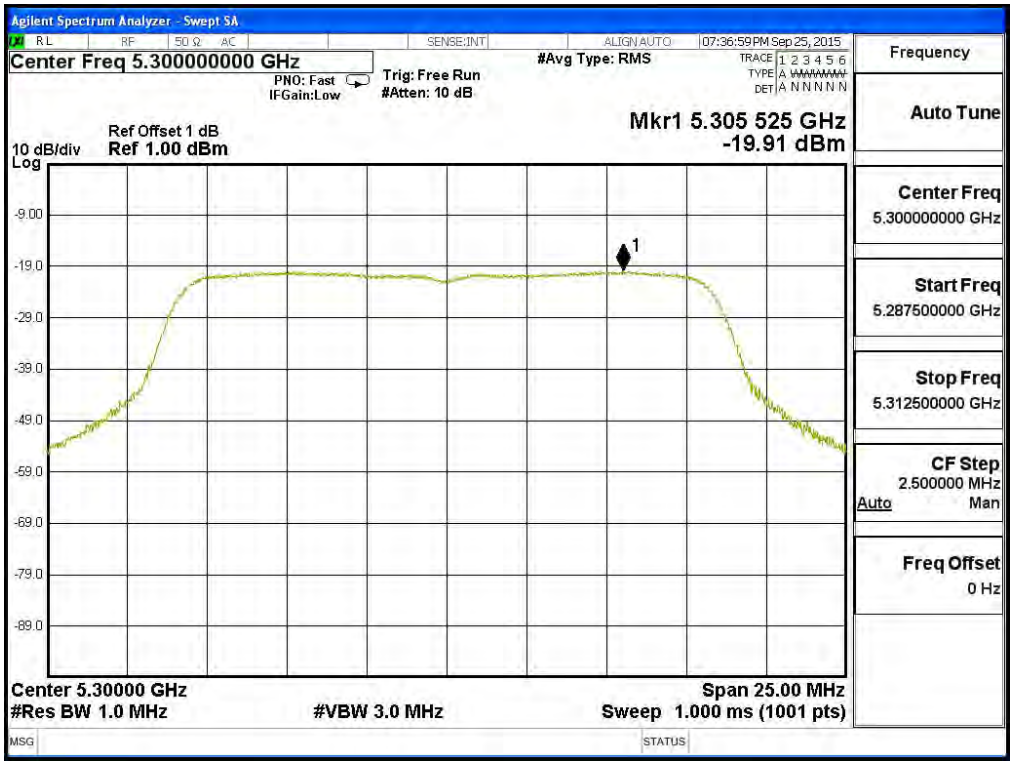
Channel 140: (Chain A)



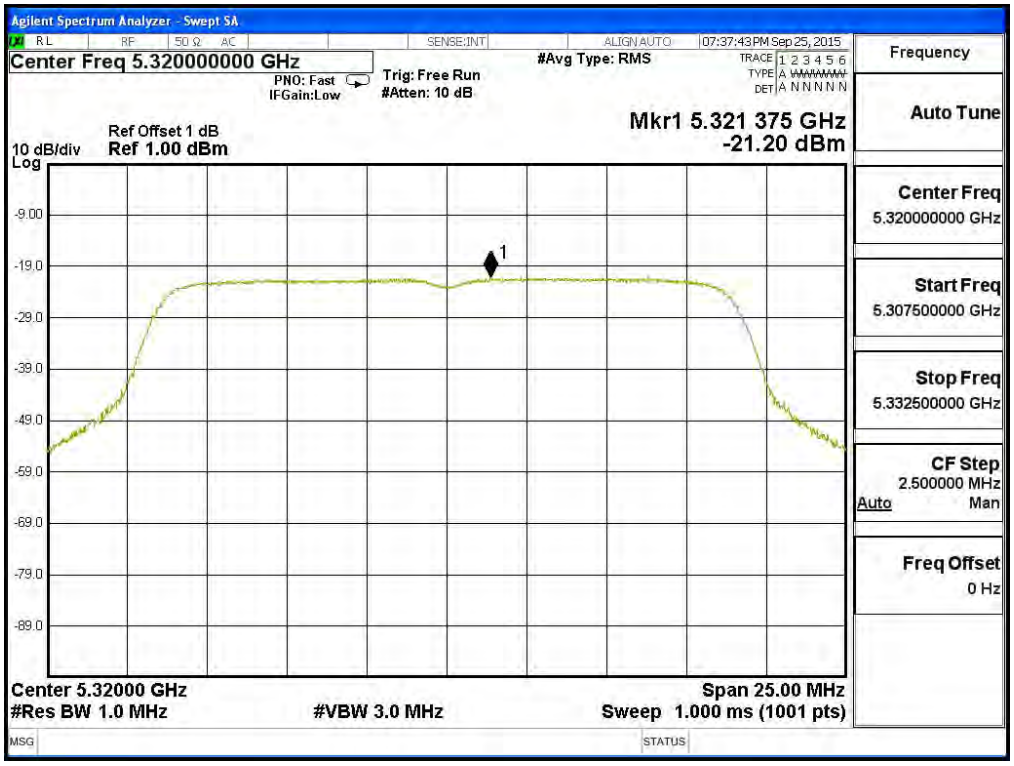
Channel 52: (Chain B)



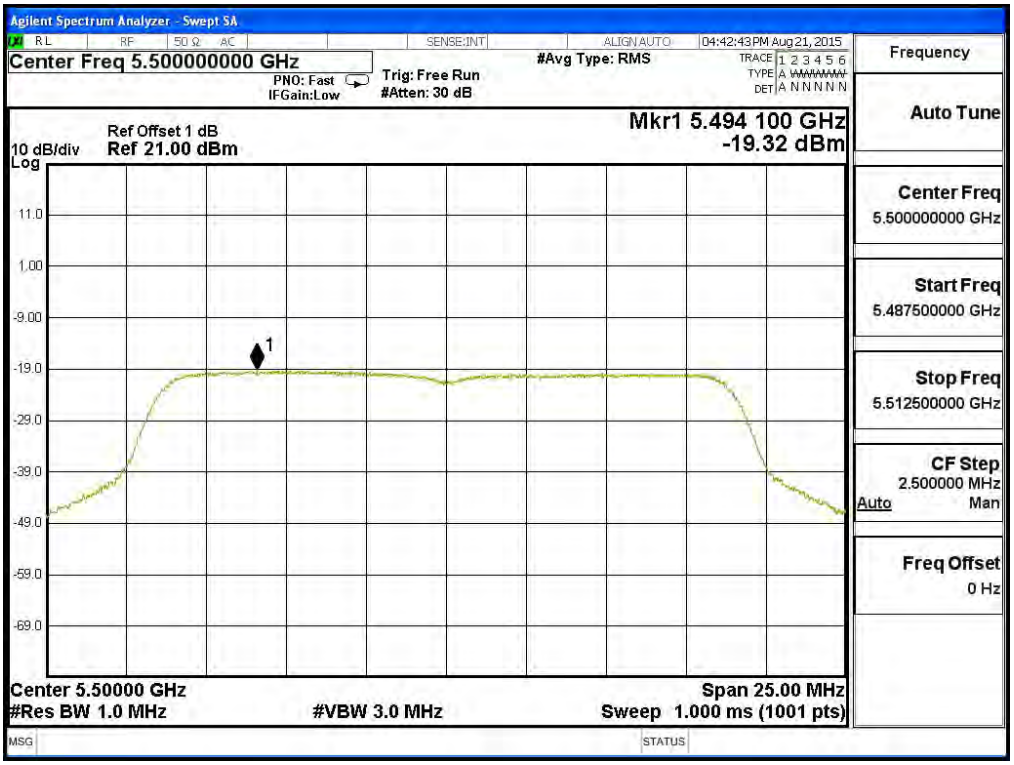
Channel 60: (Chain B)



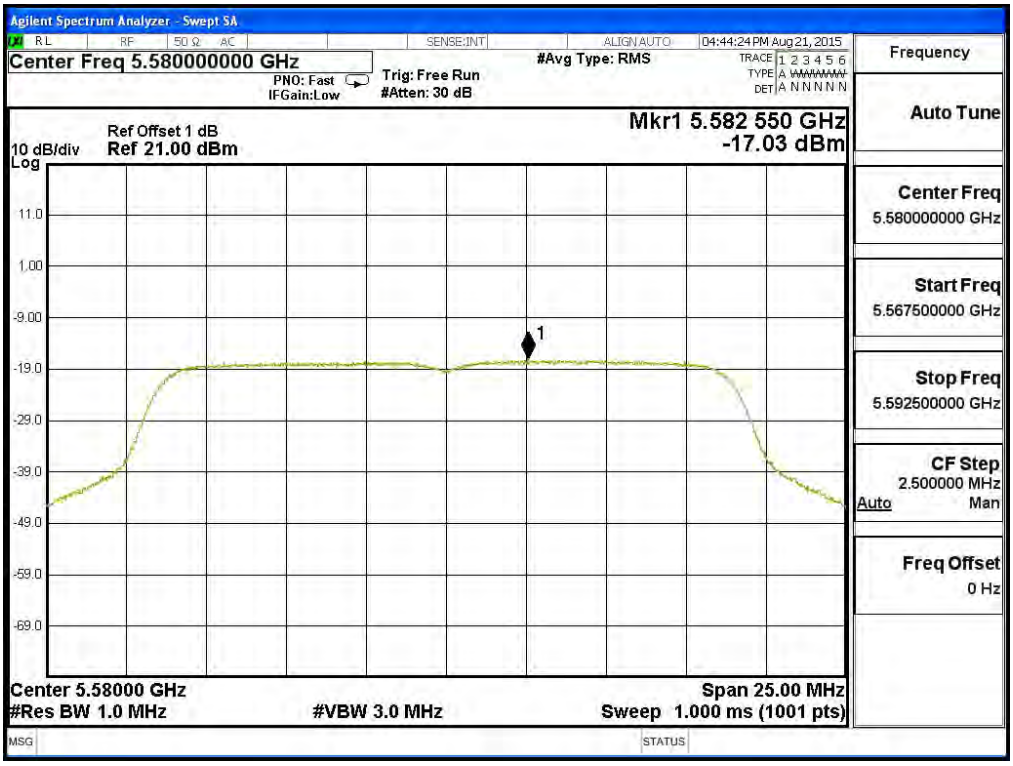
Channel 64: (Chain B)



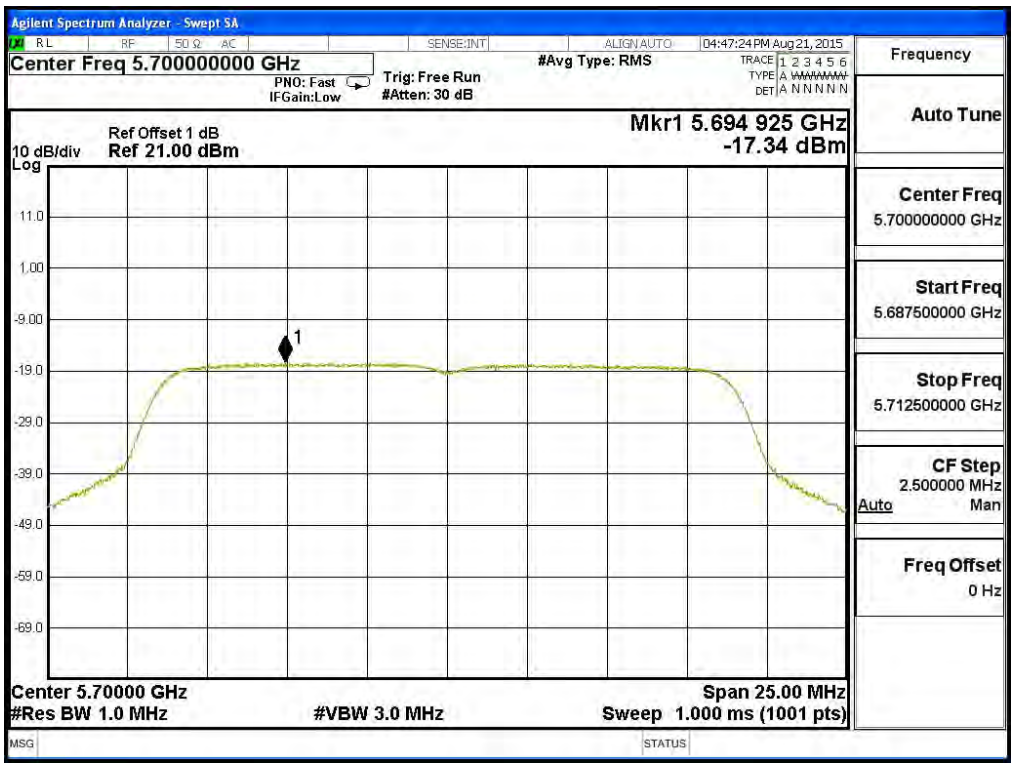
Channel 100: (Chain B)



Channel 116: (Chain B)



Channel 140: (Chain B)



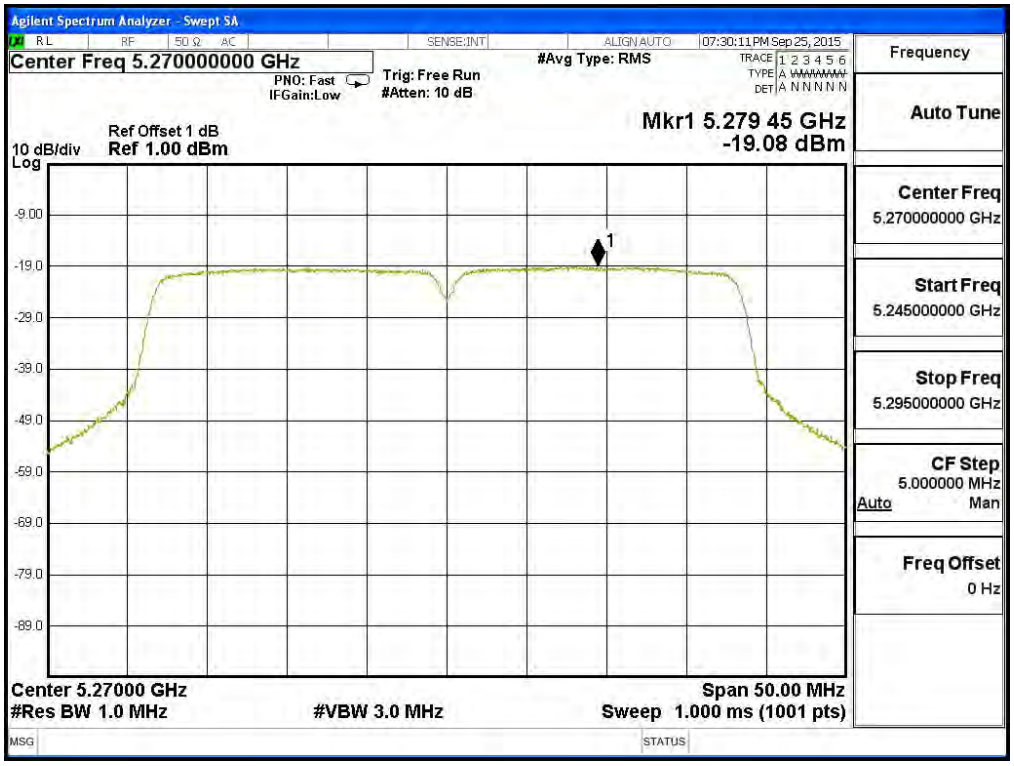
Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 21: Transmit (802.11n-40BW 30Mbps)(Panel Antenna)

5250~5350MHz, 5470-5600 MHz and 5650-5725 MHz

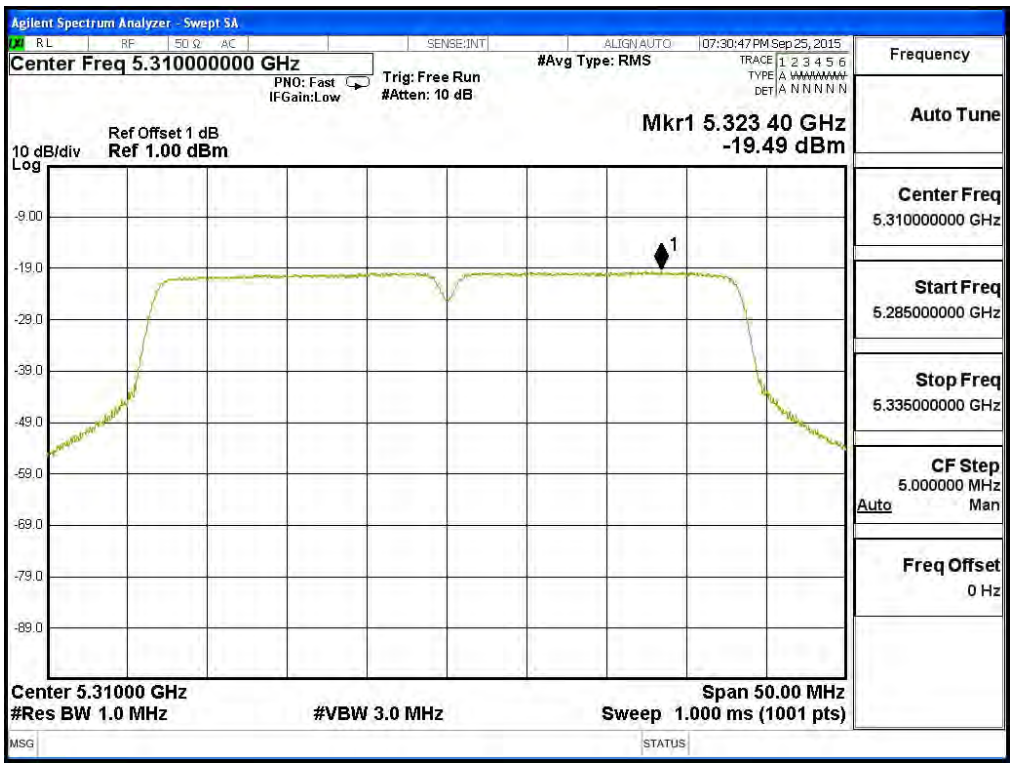
Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Required Limit (dBm)	Result
54	5270	A	-19.080	-16.070	-13	Pass
		B	-19.911	-16.901	-13	Pass
62	5310	A	-19.490	-16.480	-13	Pass
		B	-20.270	-17.260	-13	Pass
102	5510	A	-17.910	-14.900	-13	Pass
		B	-22.820	-19.810	-13	Pass
110	5550	A	-17.950	-14.940	-13	Pass
		B	-22.680	-19.670	-13	Pass
134	5670	A	-18.560	-15.550	-13	Pass
		B	-18.730	-15.720	-13	Pass

Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.
2.Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas).

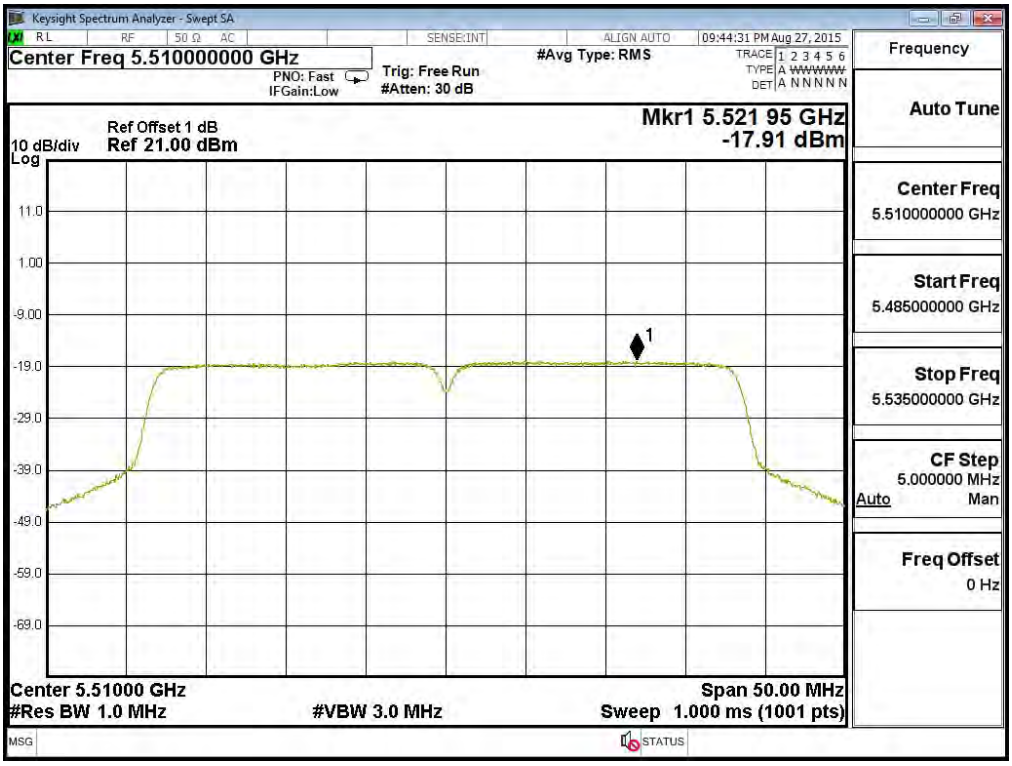
Channel 54: (Chain A)



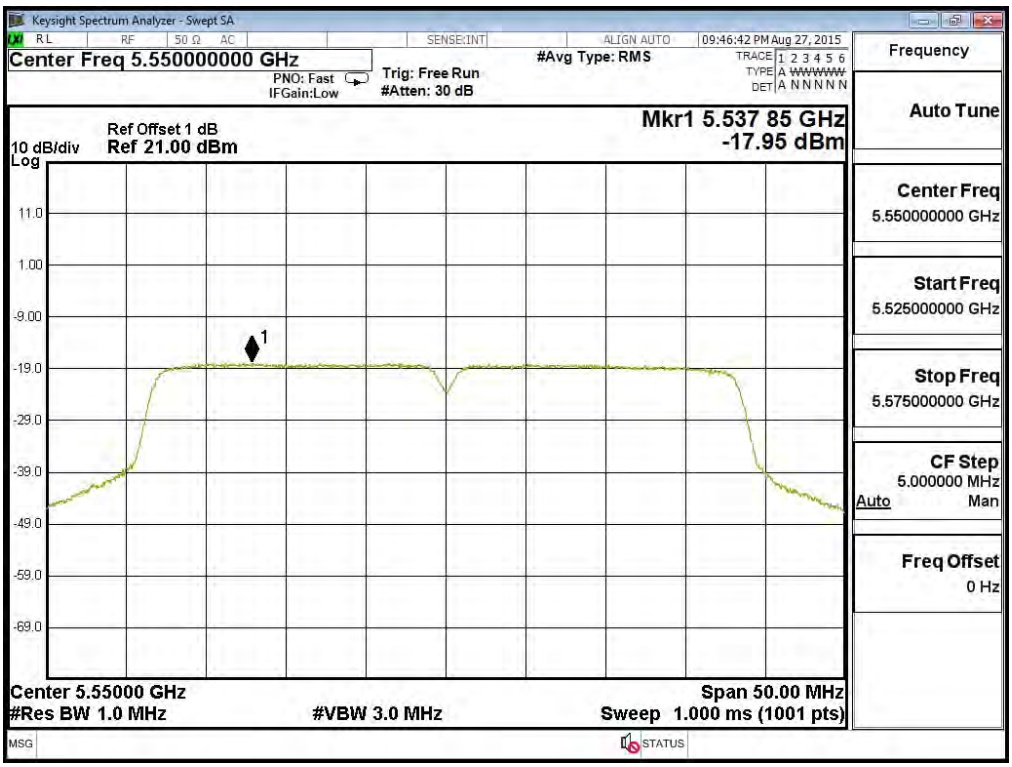
Channel 62: (Chain A)



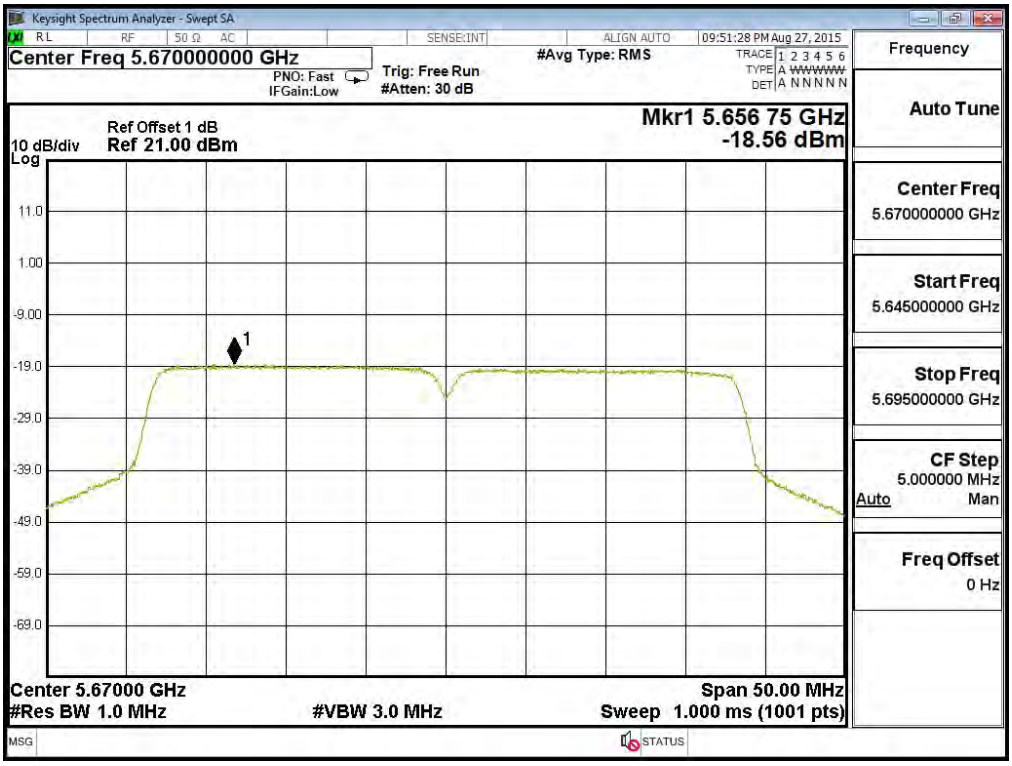
Channel 102: (Chain A)



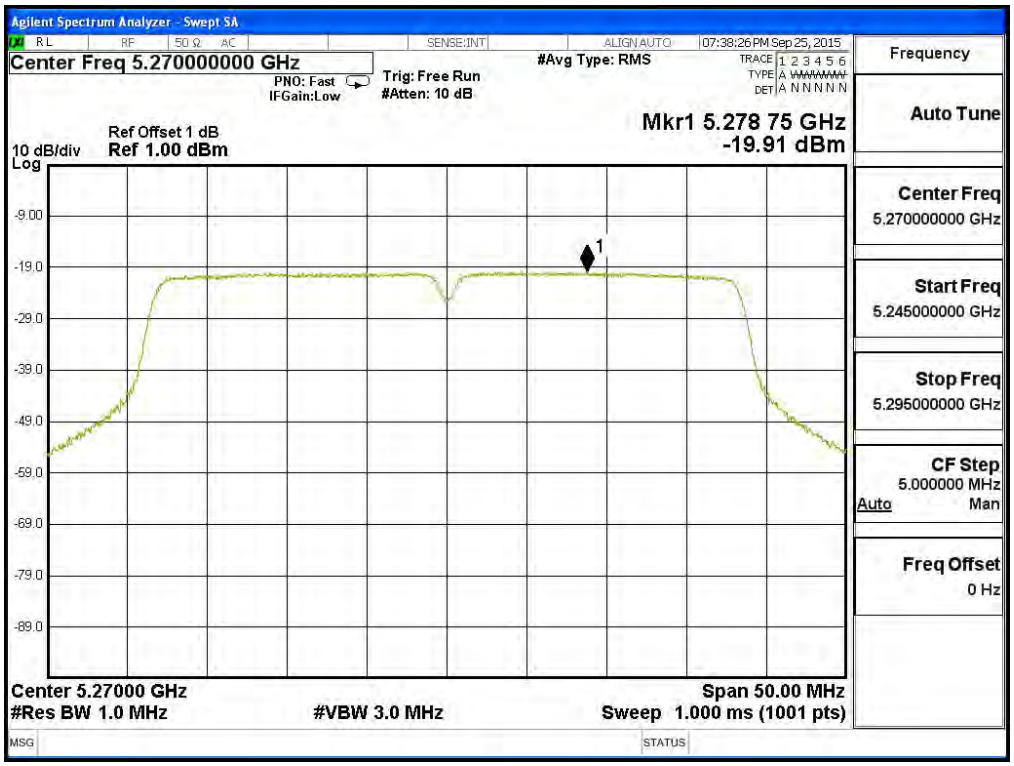
Channel 110: (Chain A)



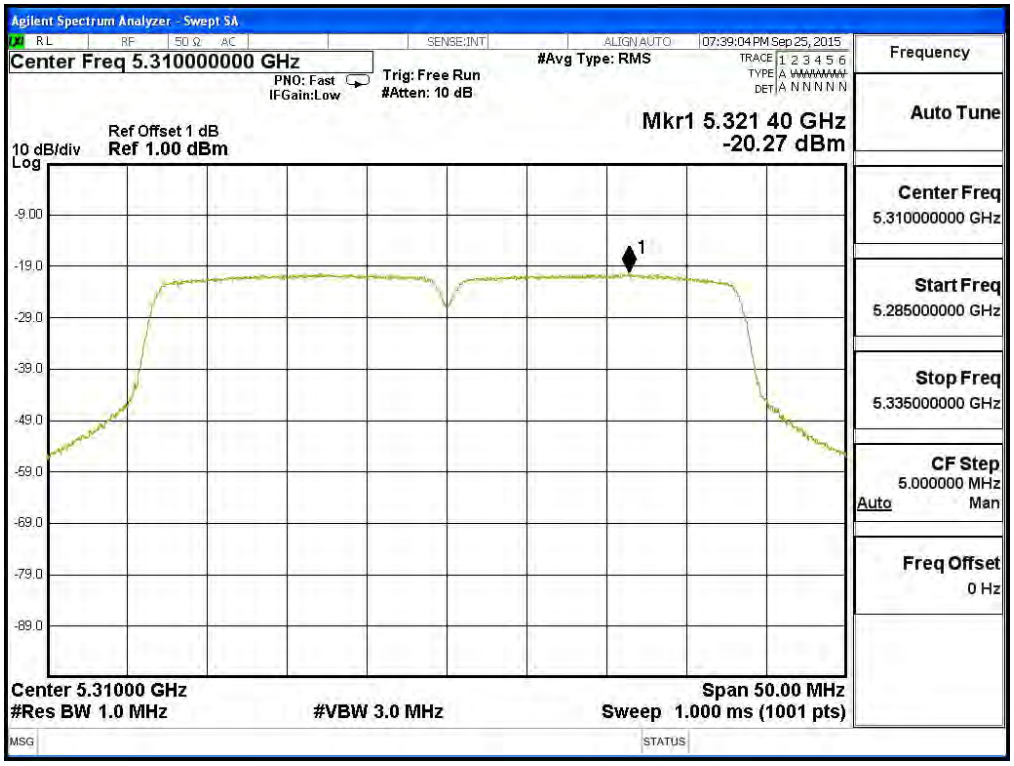
Channel 134: (Chain A)



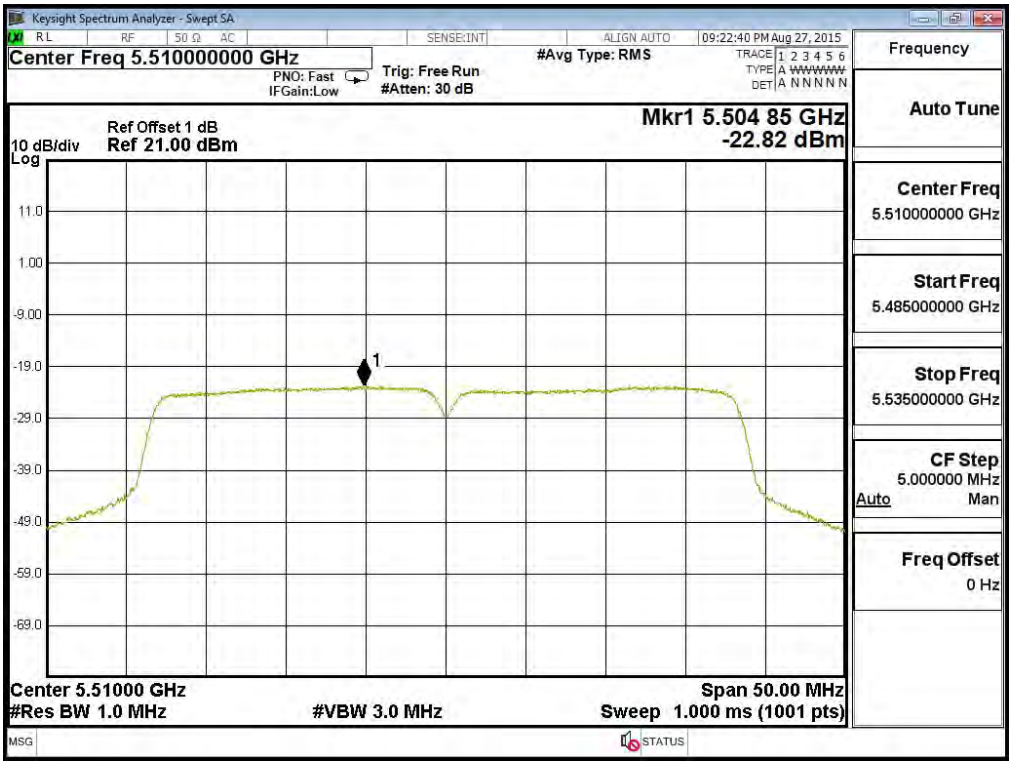
Channel 54: (Chain B)



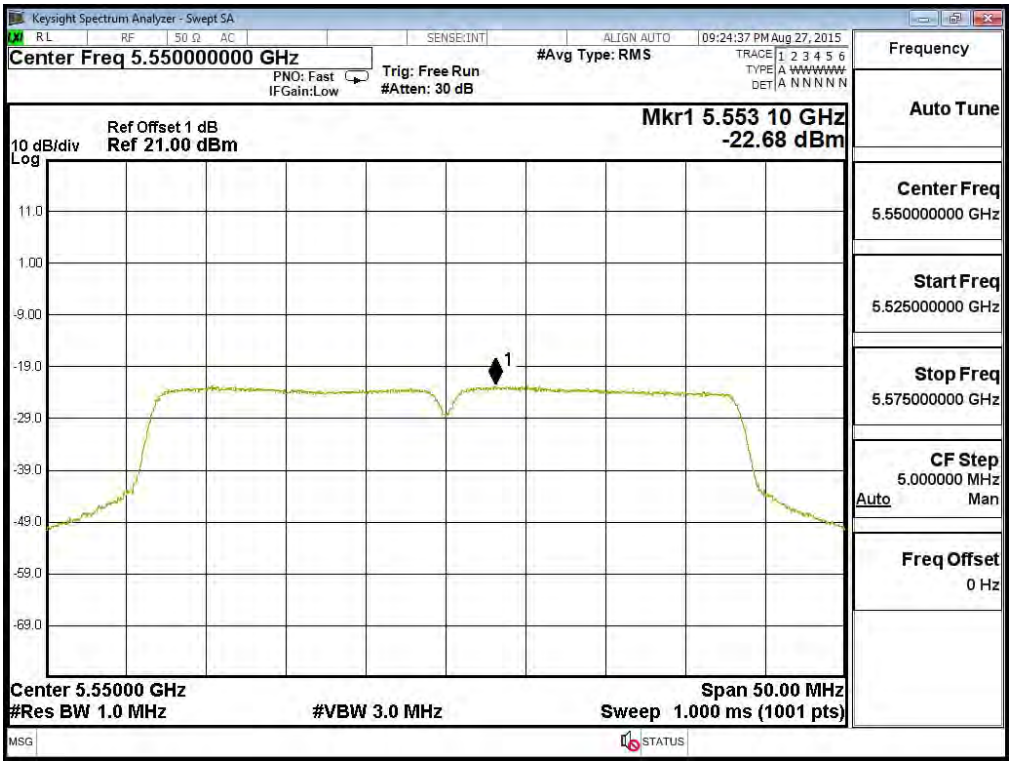
Channel 62: (Chain B)



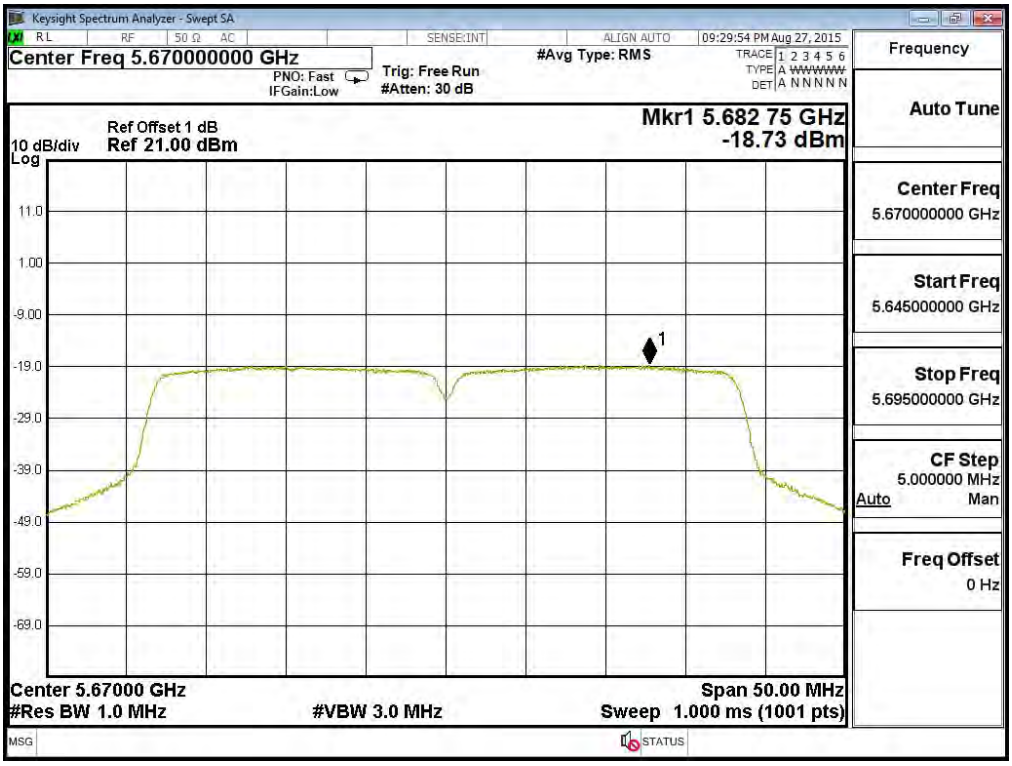
Channel 102: (Chain B)



Channel 110: (Chain B)



Channel 134: (Chain B)

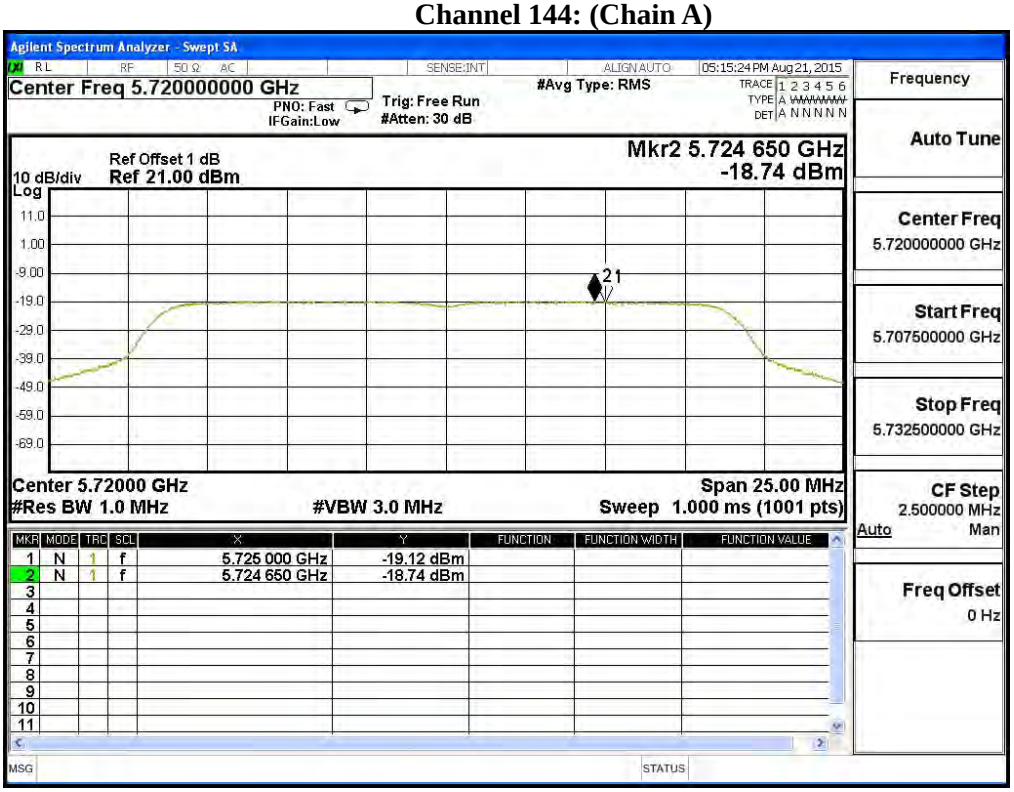


Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 22: Transmit (802.11ac-20BW-14.4Mbps)(Panel Antenna)

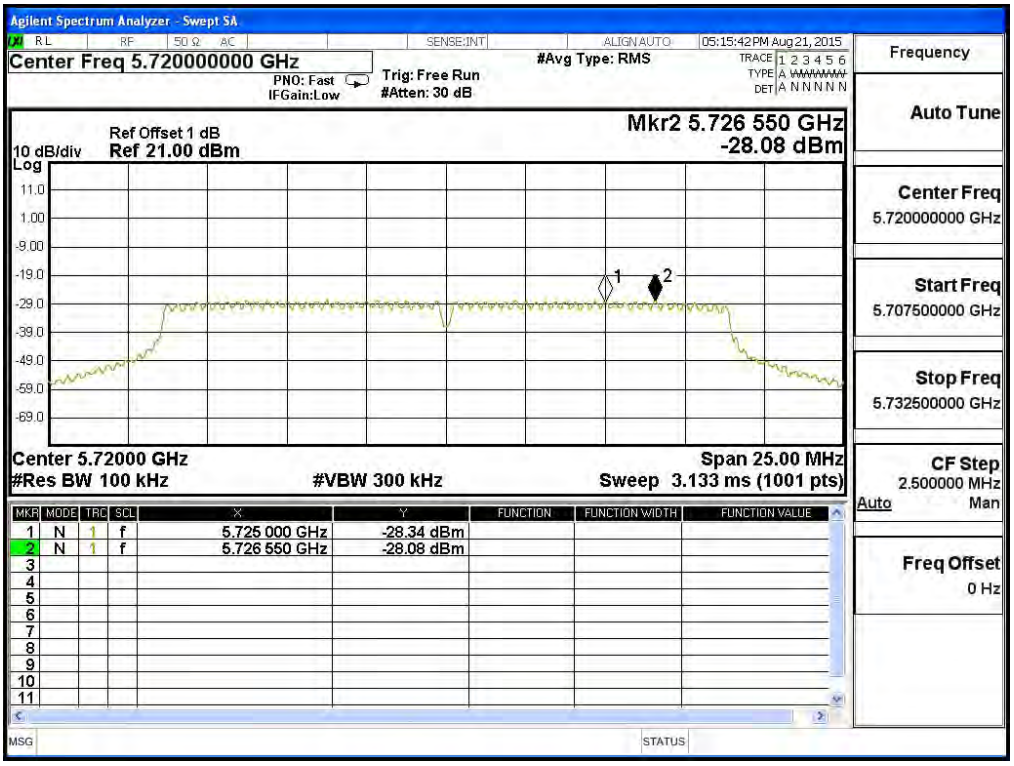
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
144	5720(Band3)	A	-18.740	--	-15.730	-13	Pass
		B	-16.730	--	-13.720	-13	Pass
144	5720(Band4)	A	-28.080	6.980	-18.090	30	Pass
		B	-26.180	6.980	-16.190	30	Pass

Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.
2.Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas) + BWCF.

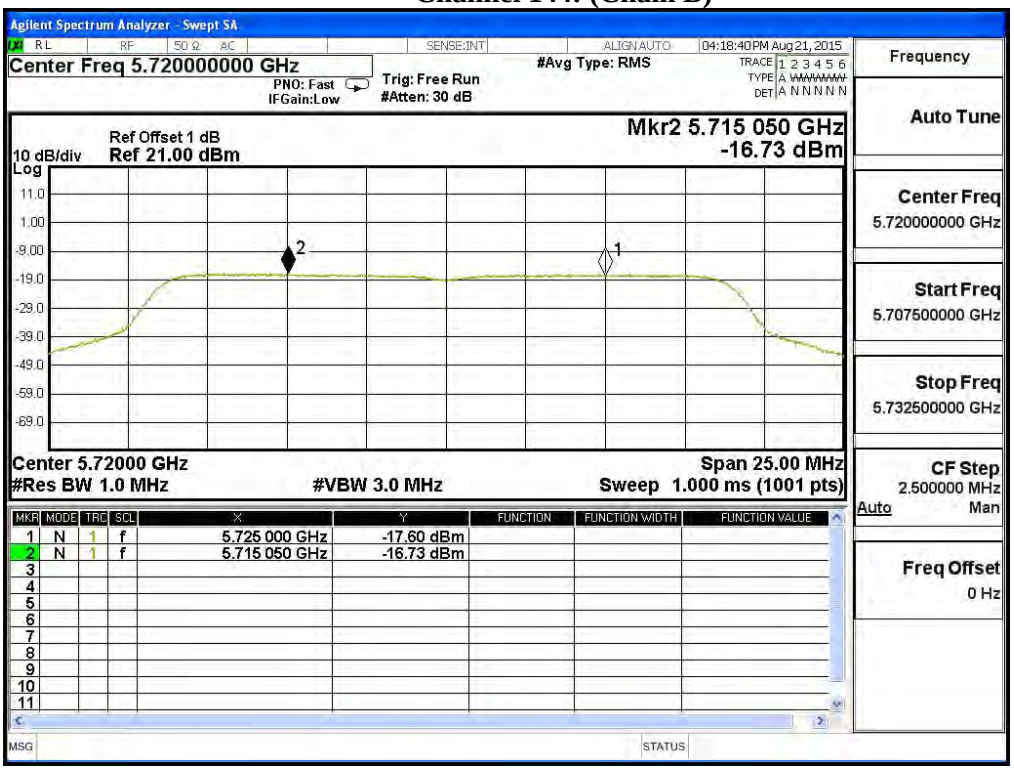
Channel 144: (Chain A)



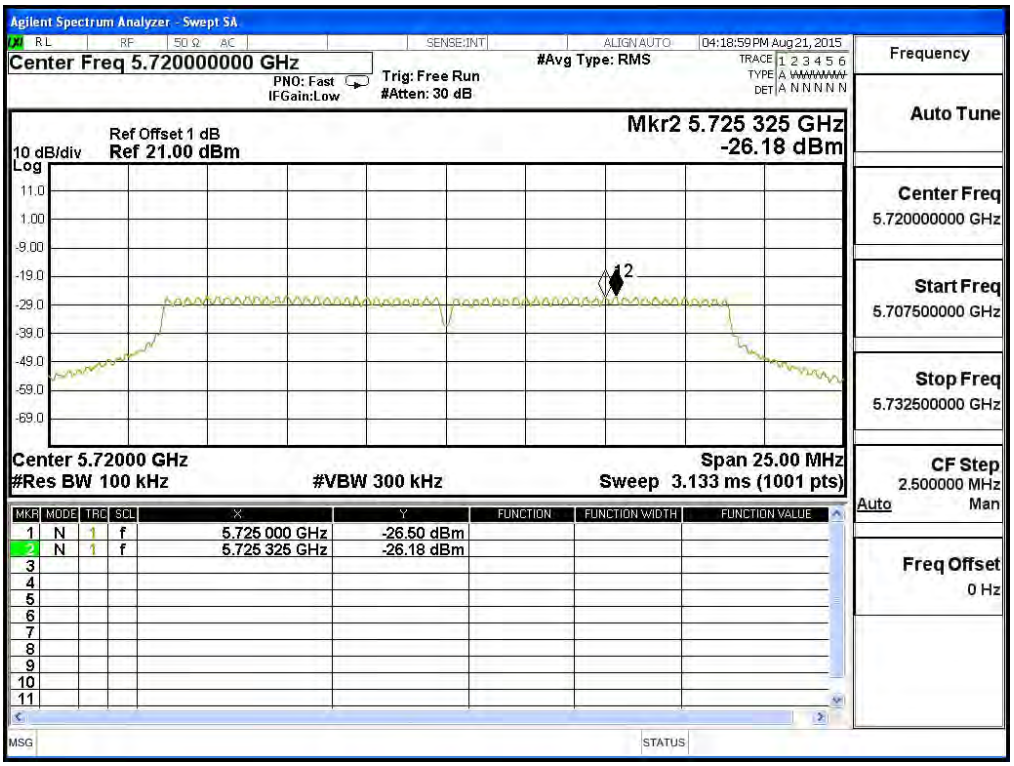
Channel 144: (Chain A)



Channel 144: (Chain B)



Channel 144: (Chain B)

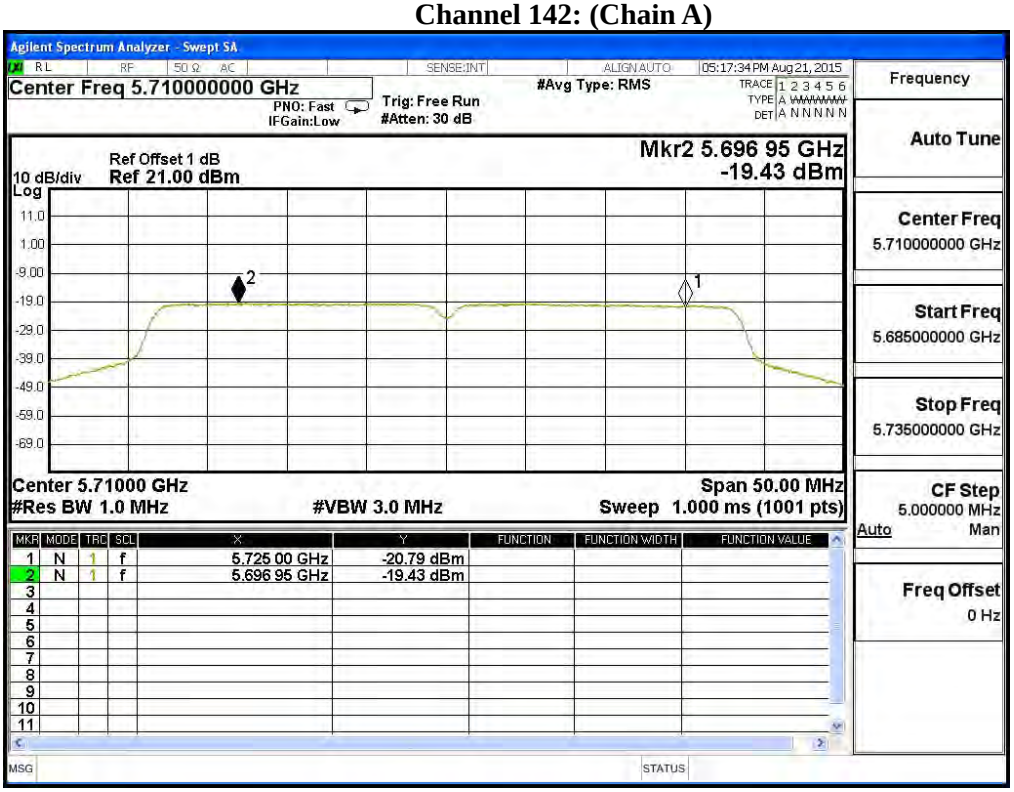


Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 23: Transmit (802.11ac-40BW-30Mbps)(Panel Antenna)

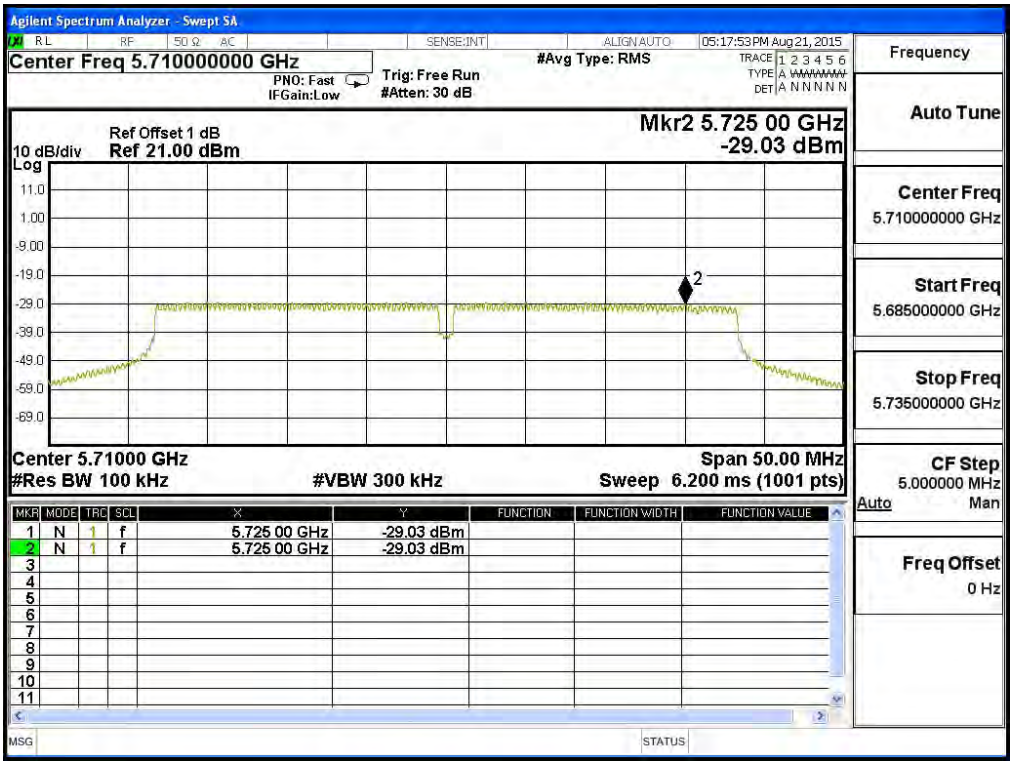
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
142	5710(Band3)	A	-19.430	--	-16.420	-13	Pass
		B	-17.150	--	-14.140	-13	Pass
142	5710(Band4)	A	-29.030	6.980	-19.040	30	Pass
		B	-27.630	6.980	-17.640	30	Pass

Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.
2.Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas) + BWCF.

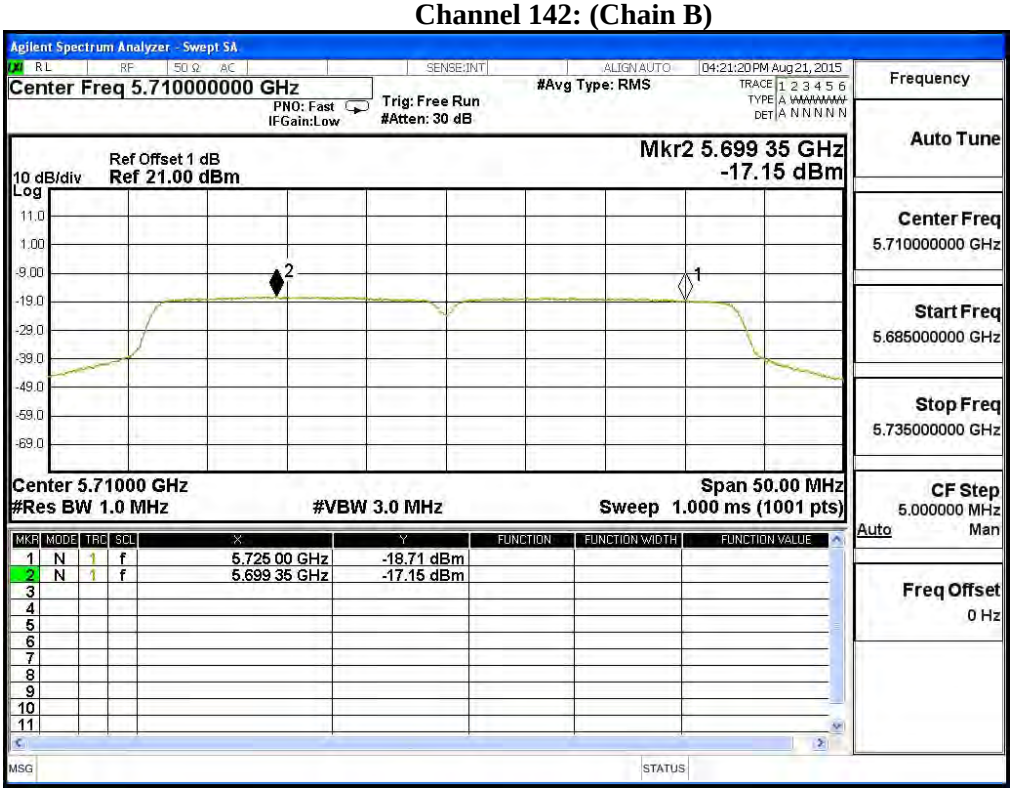
Channel 142: (Chain A)



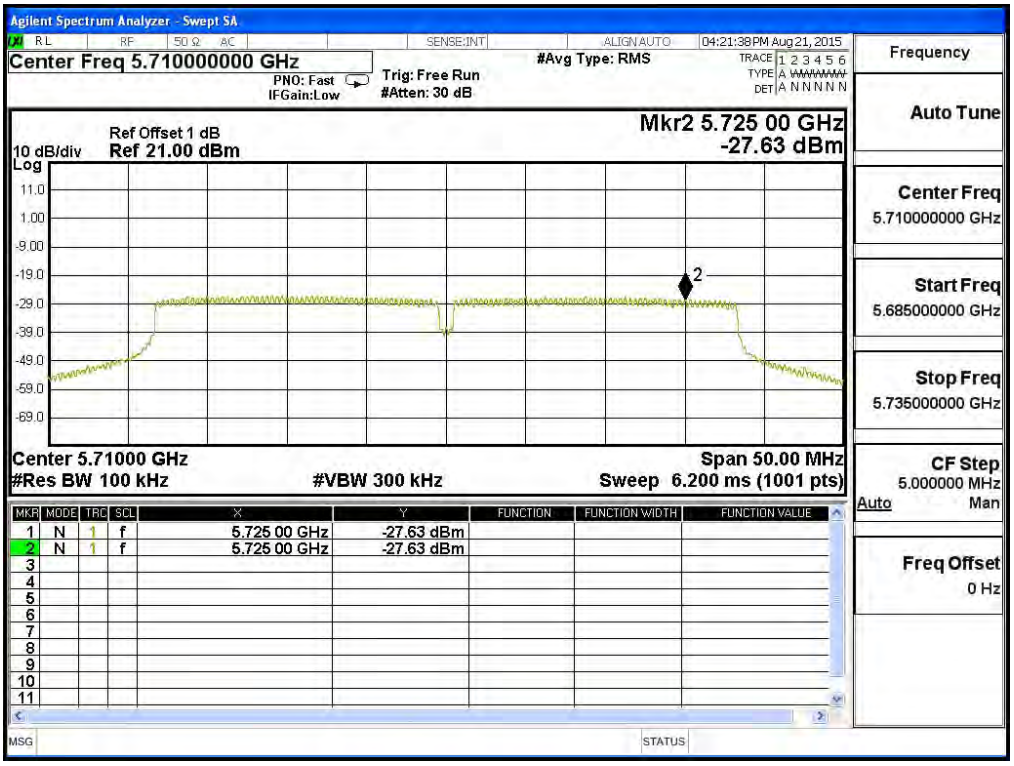
Channel 142: (Chain A)



Channel 142: (Chain B)



Channel 142: (Chain B)



Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 24: Transmit (802.11ac-80BW-65Mbps)(Panel Antenna)

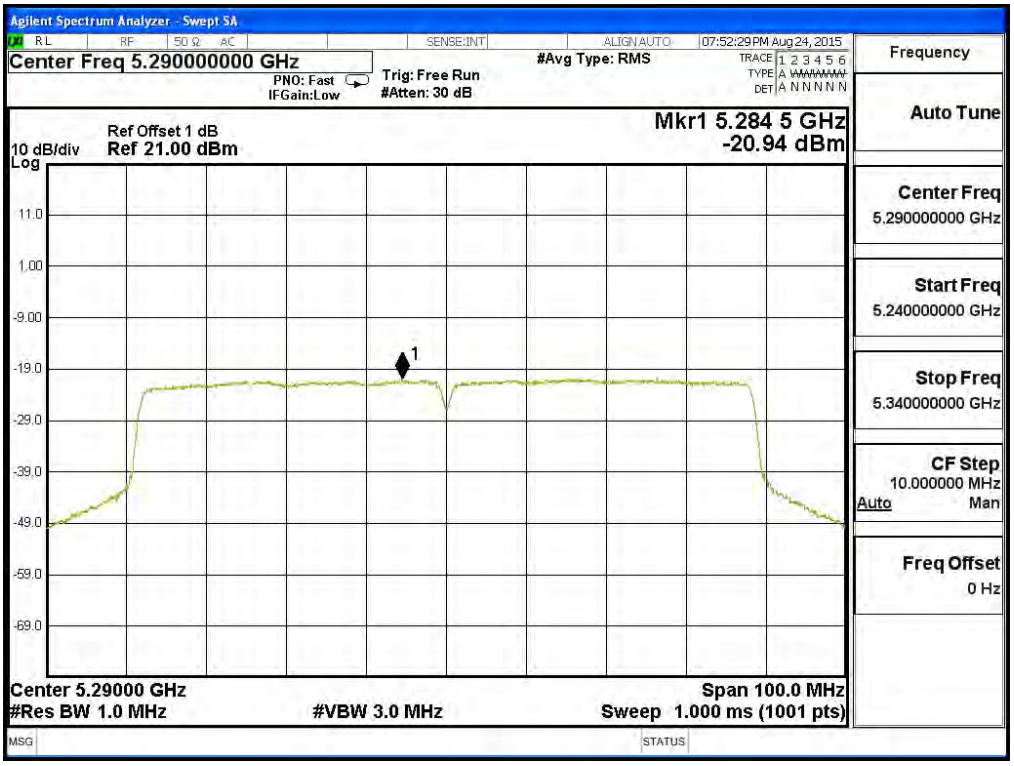
5250~5350MHz, 5470-5600 MHz and 5650-5725 MHz

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)[1]	Required Limit (dBm)	Result
58	5290	A	-20.944	--	-17.934	-13	Pass
		B	-22.616	--	-19.606	-13	Pass
106	5530	A	-20.241	--	-17.231	-13	Pass
		B	-25.557	--	-22.547	-13	Pass
122	5610	A	-16.830	--	-13.820	-13	Pass
		B	-16.900	--	-13.890	-13	Pass
138	5690 (Band3)	A	-20.110	--	-17.100	-13	Pass
		B	-21.100	--	-18.090	-13	Pass
138	5690 (Band4)	A	-31.320	6.980	-21.330	30	Pass
		B	-29.980	6.980	-19.990	30	Pass

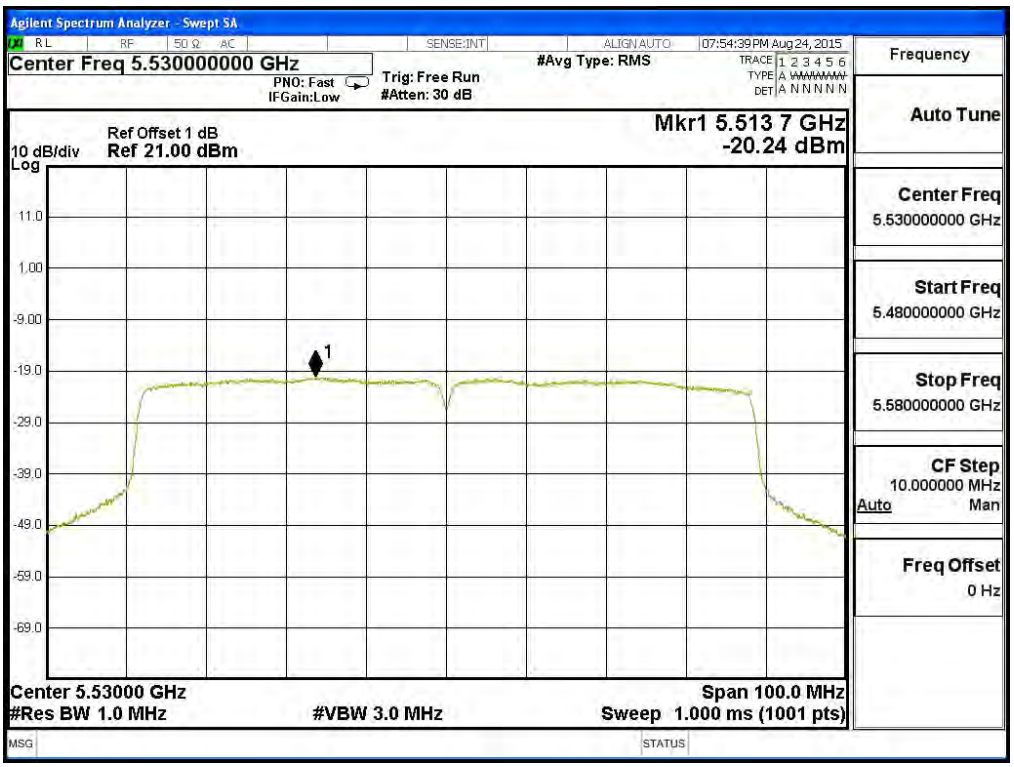
Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

2.Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas)

Channel 58: (Chain A)

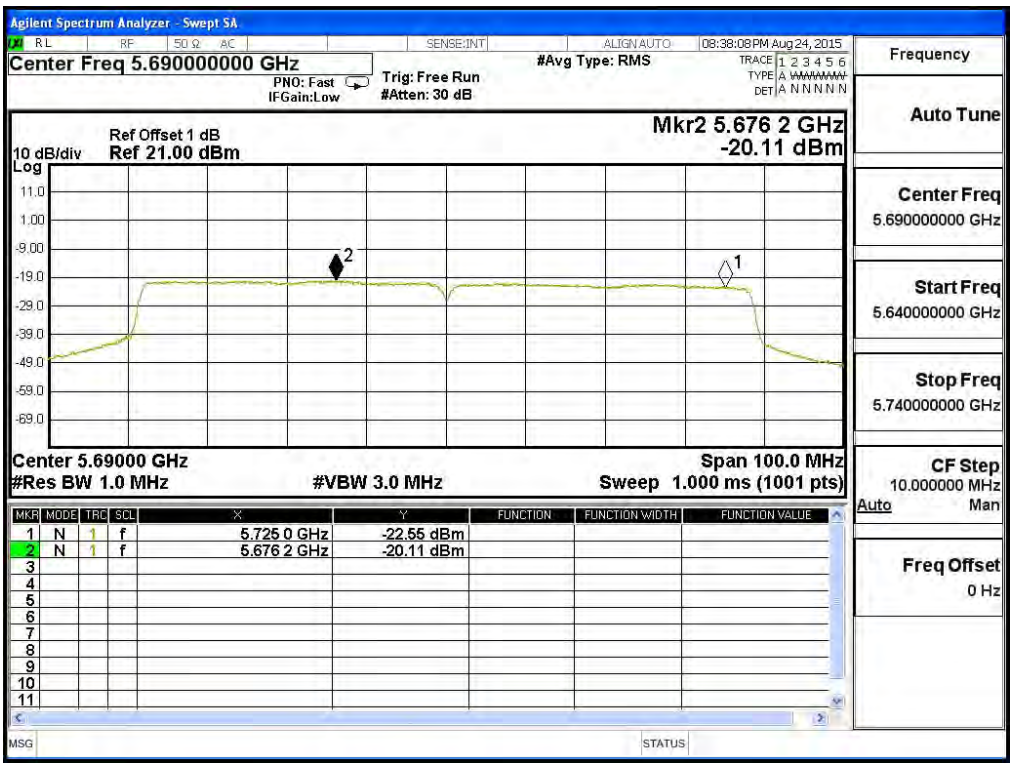


Channel 106: (Chain A)

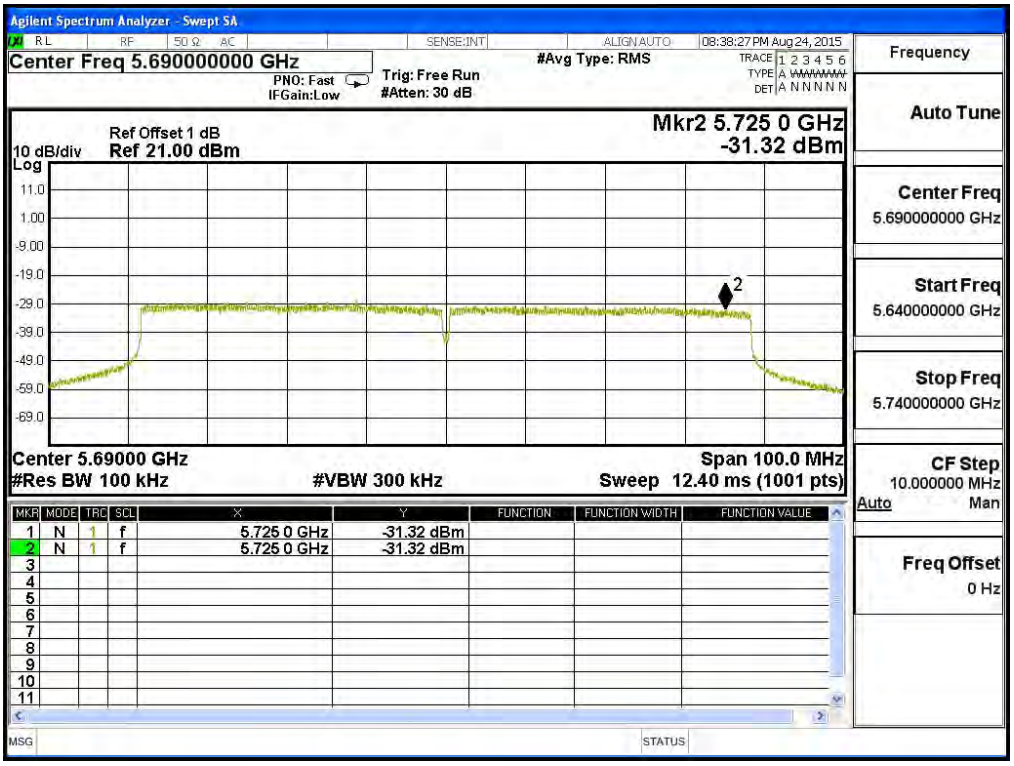


Channel 122: (Chain A)

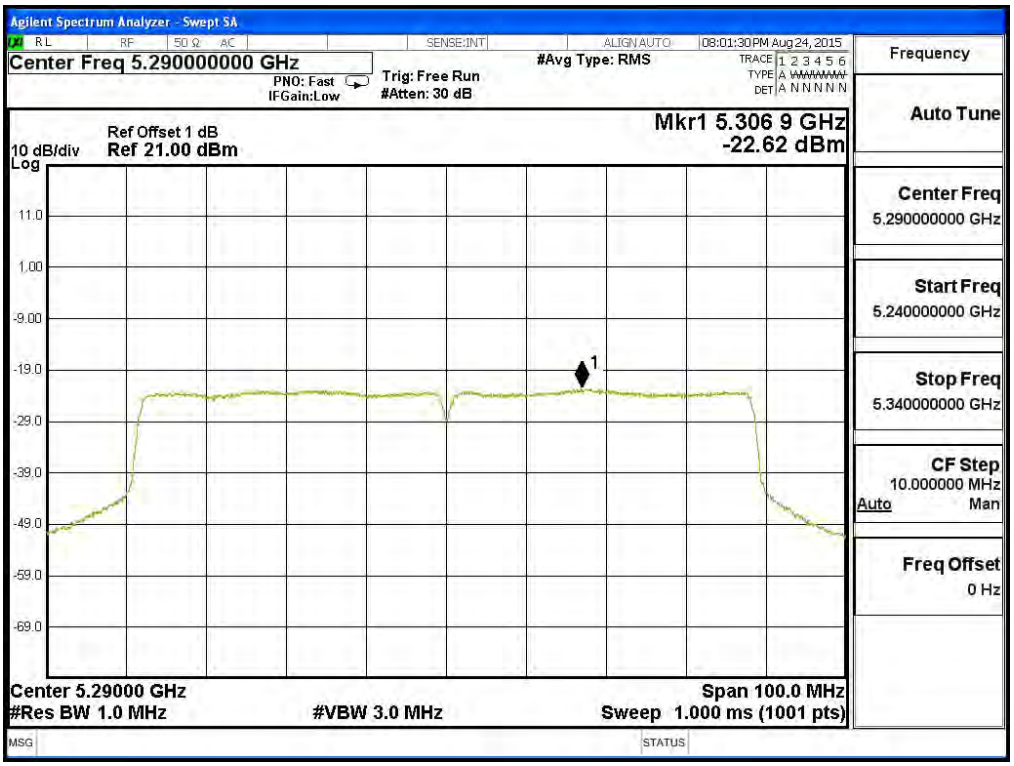
Channel 138 (Band3): (Chain A)



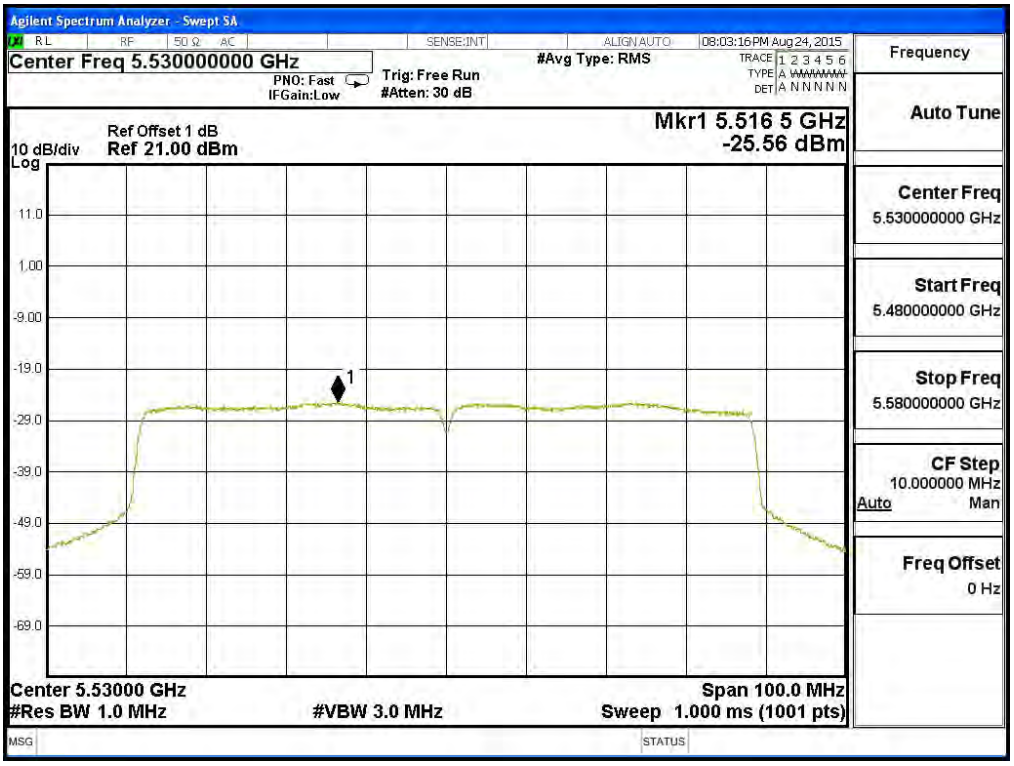
Channel 138 (Band4): (Chain A)



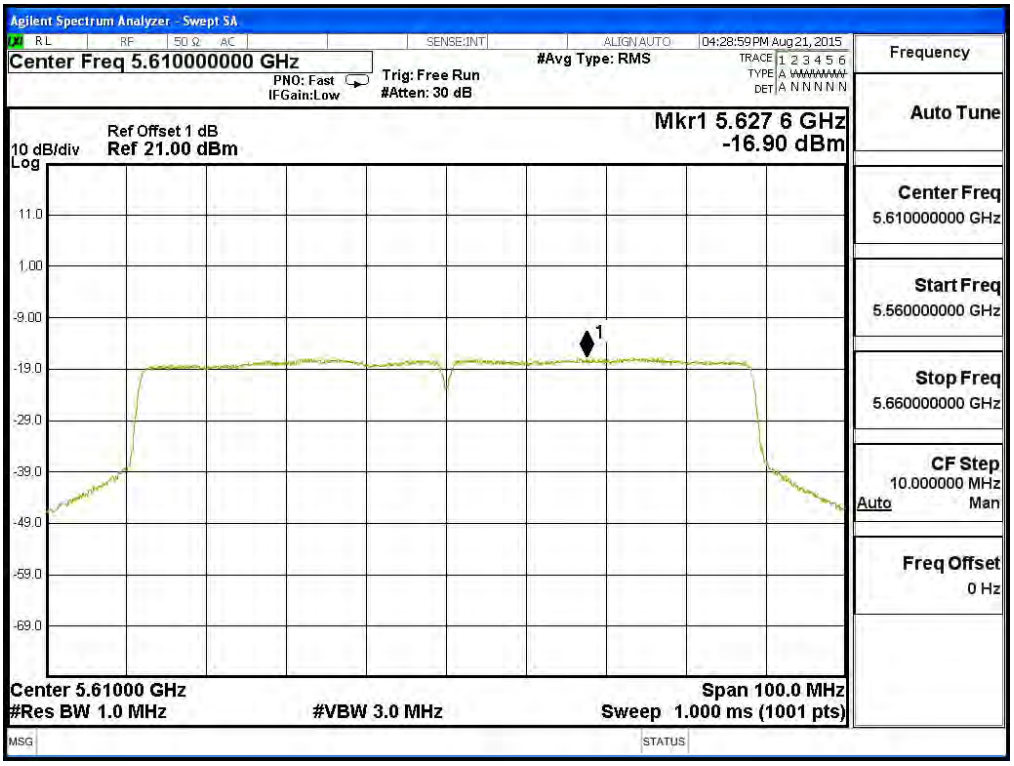
Channel 58: (Chain B)



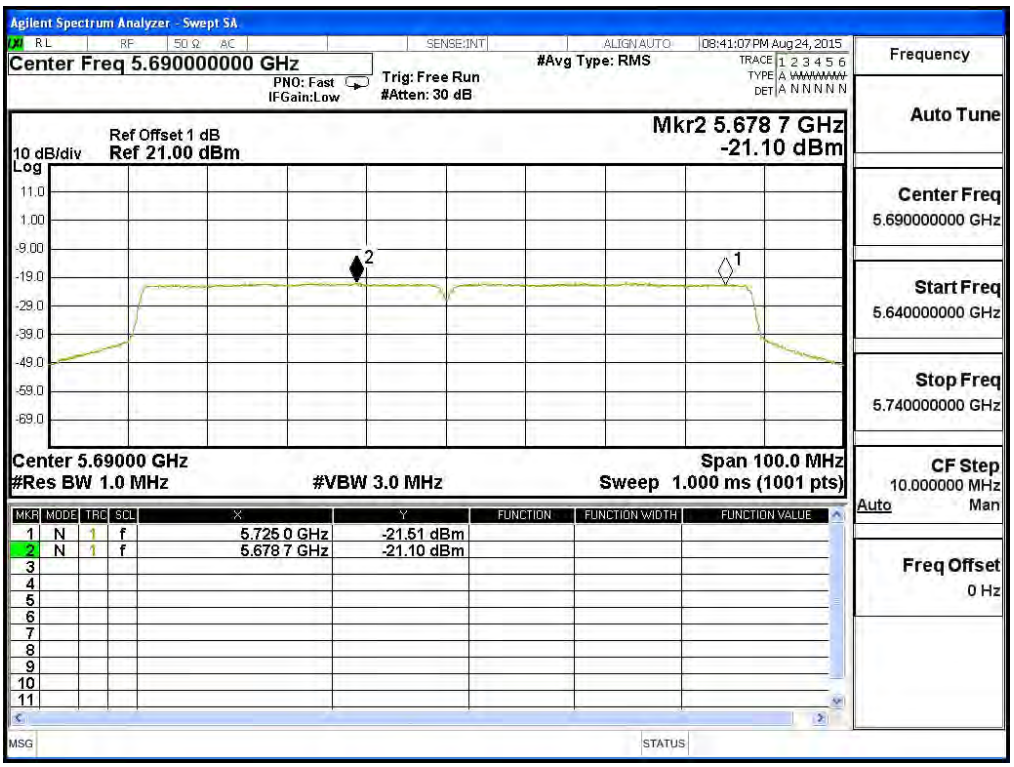
Channel 106: (Chain B)



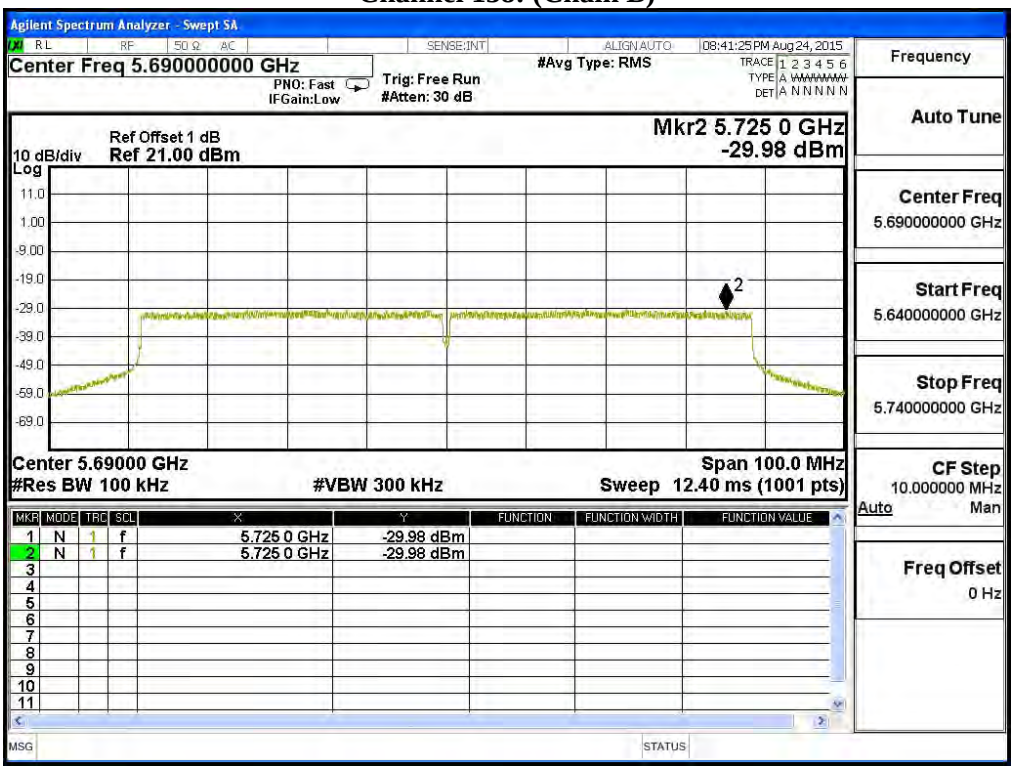
Channel 122: (Chain B)



Channel 138: (Chain B)



Channel 138: (Chain B)



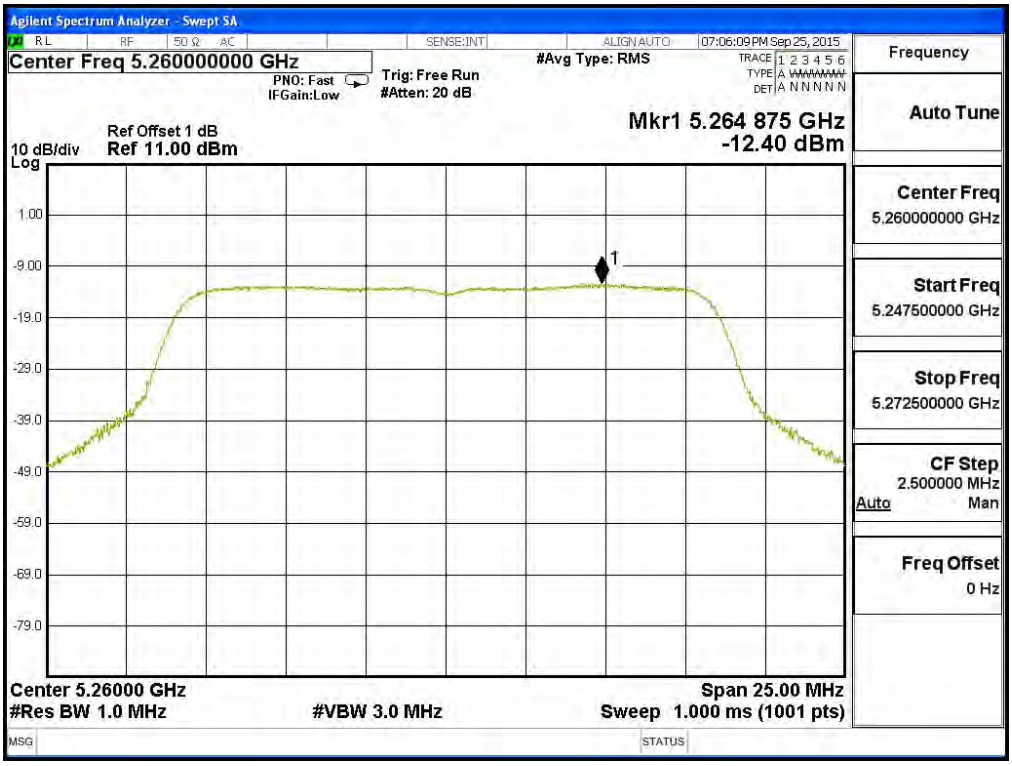
Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 25: Transmit (802.11a-6Mbps)(Sector Antenna)

5250~5350MHz, 5470-5600 MHz and 5650-5725 MHz

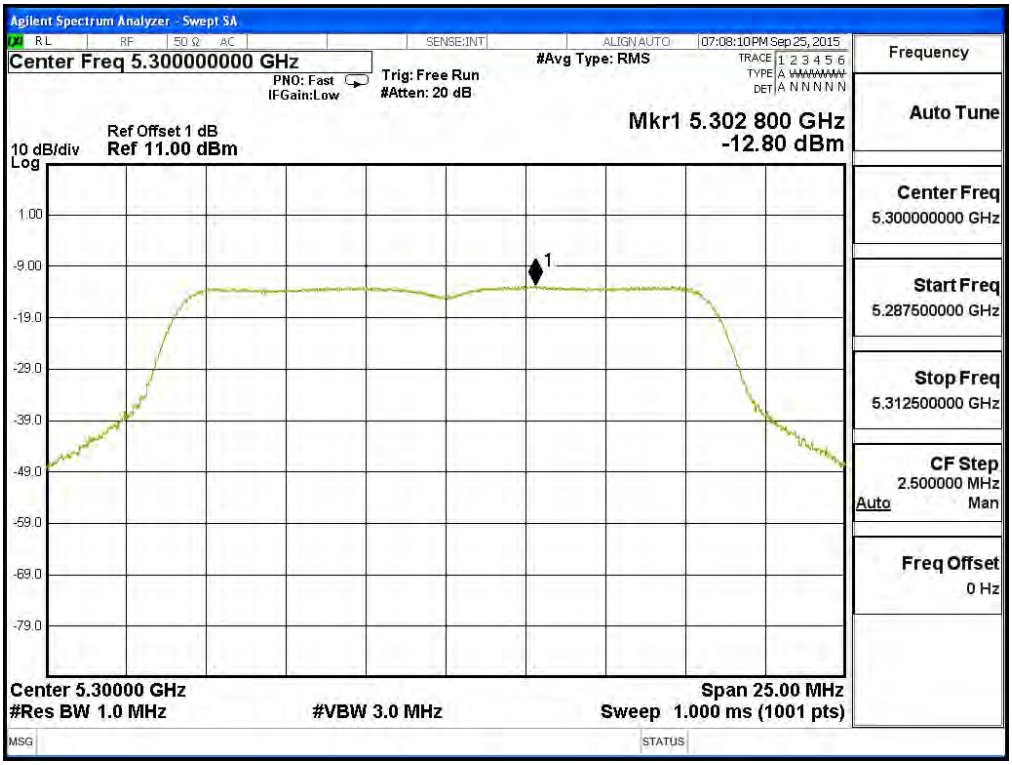
Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Required Limit (dBm)	Result
52	5260	A	-12.400	-9.390	-3	Pass
		B	-13.190	-10.180	-3	Pass
60	5300	A	-12.803	-9.793	-3	Pass
		B	-13.853	-10.843	-3	Pass
64	5320	A	-12.386	-9.376	-3	Pass
		B	-13.868	-10.858	-3	Pass
100	5500	A	-7.517	-4.507	-3	Pass
		B	-12.325	-9.315	-3	Pass
116	5580	A	-8.030	-5.020	-3	Pass
		B	-12.406	-9.396	-3	Pass
140	5700	A	-10.135	-7.125	-3	Pass
		B	-8.840	-5.830	-3	Pass

Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.
2.Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas).

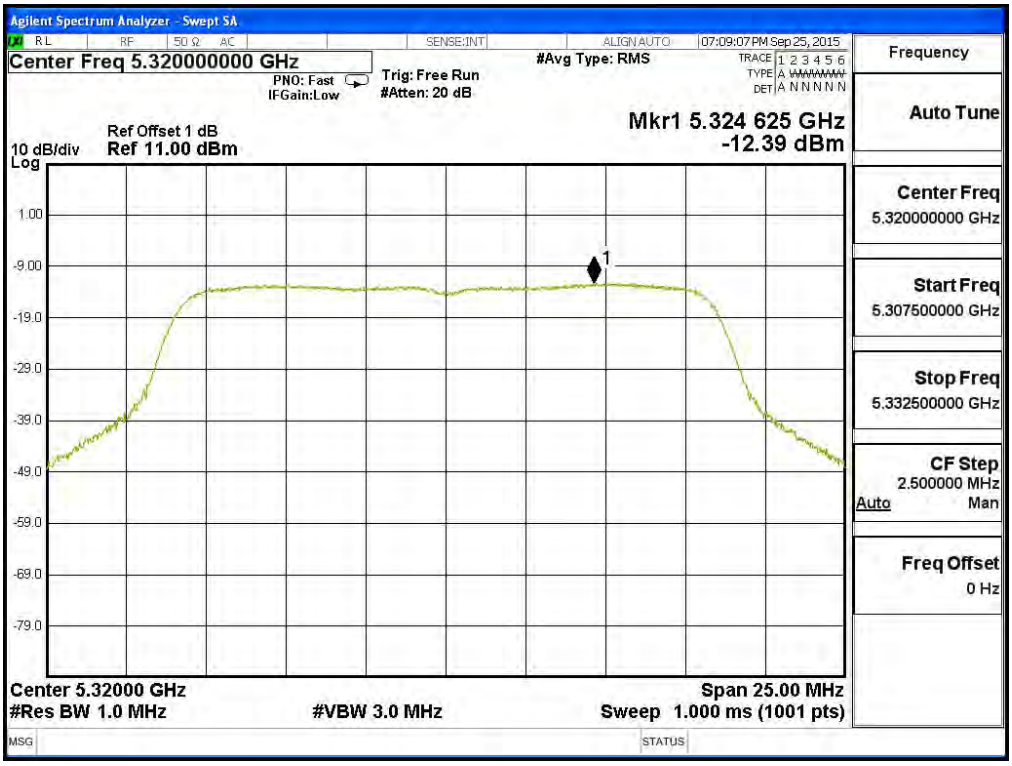
Channel 52: (Chain A)



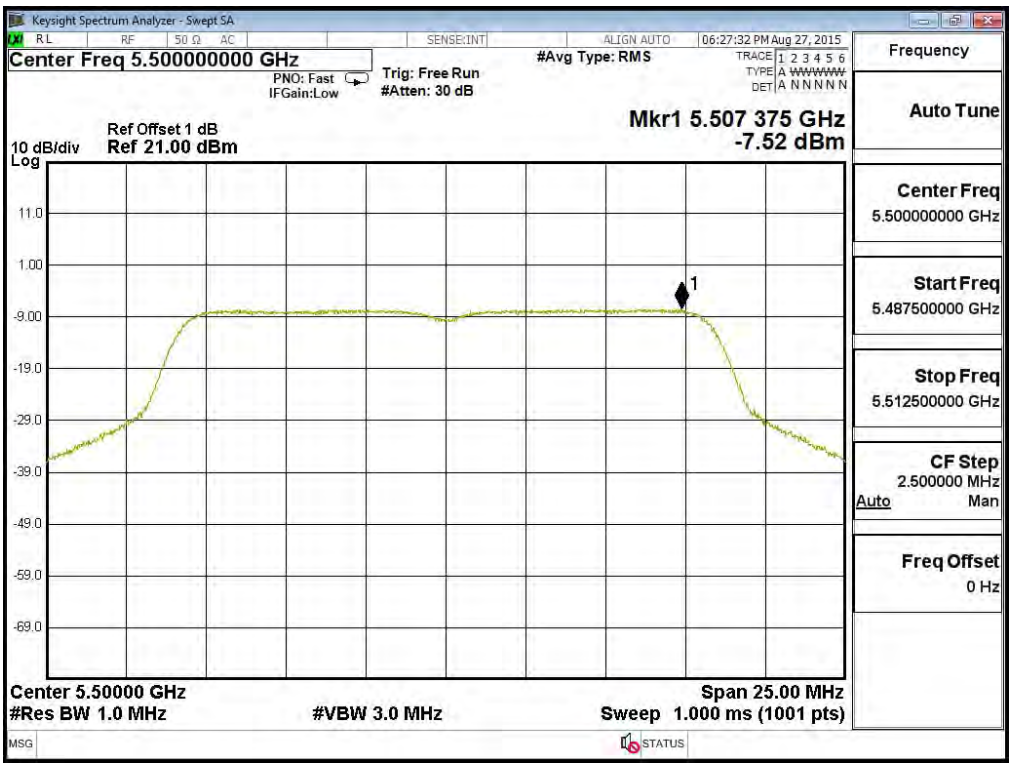
Channel 60: (Chain A)



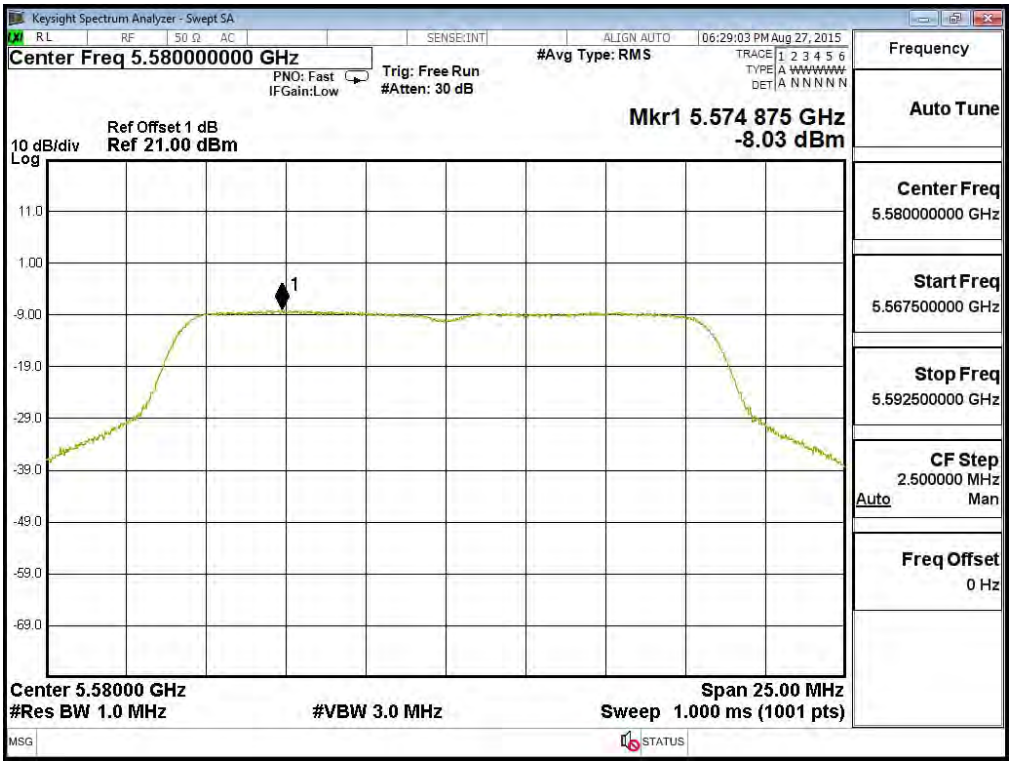
Channel 64: (Chain A)



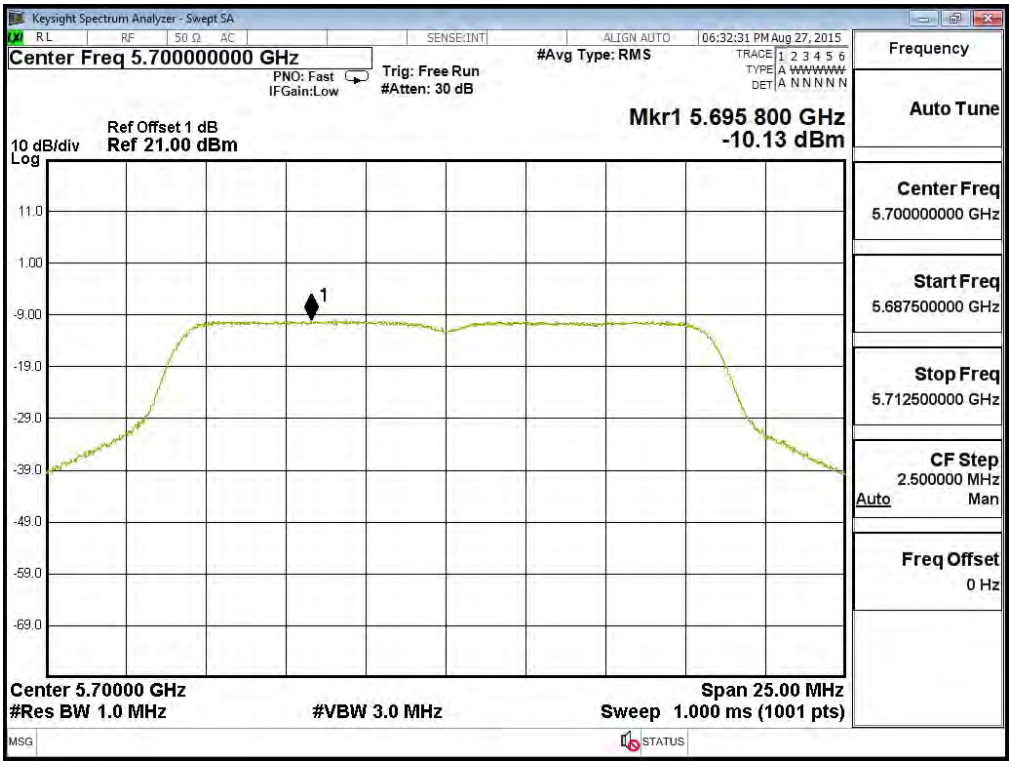
Channel 100: (Chain A)



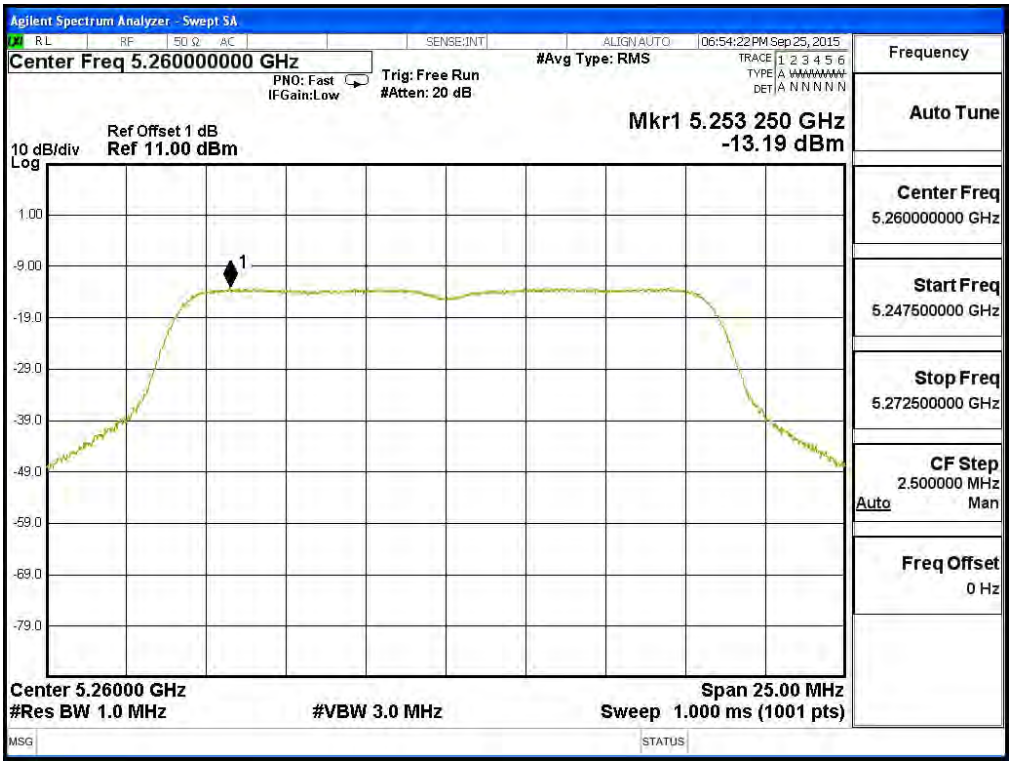
Channel 116: (Chain A)



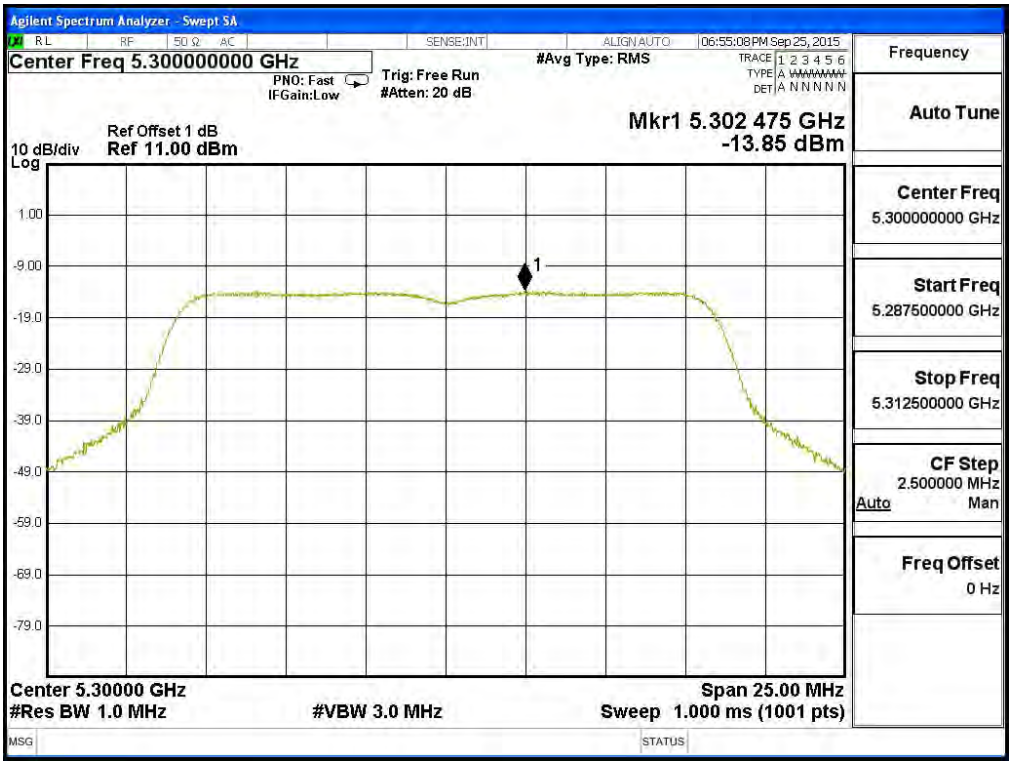
Channel 140: (Chain A)



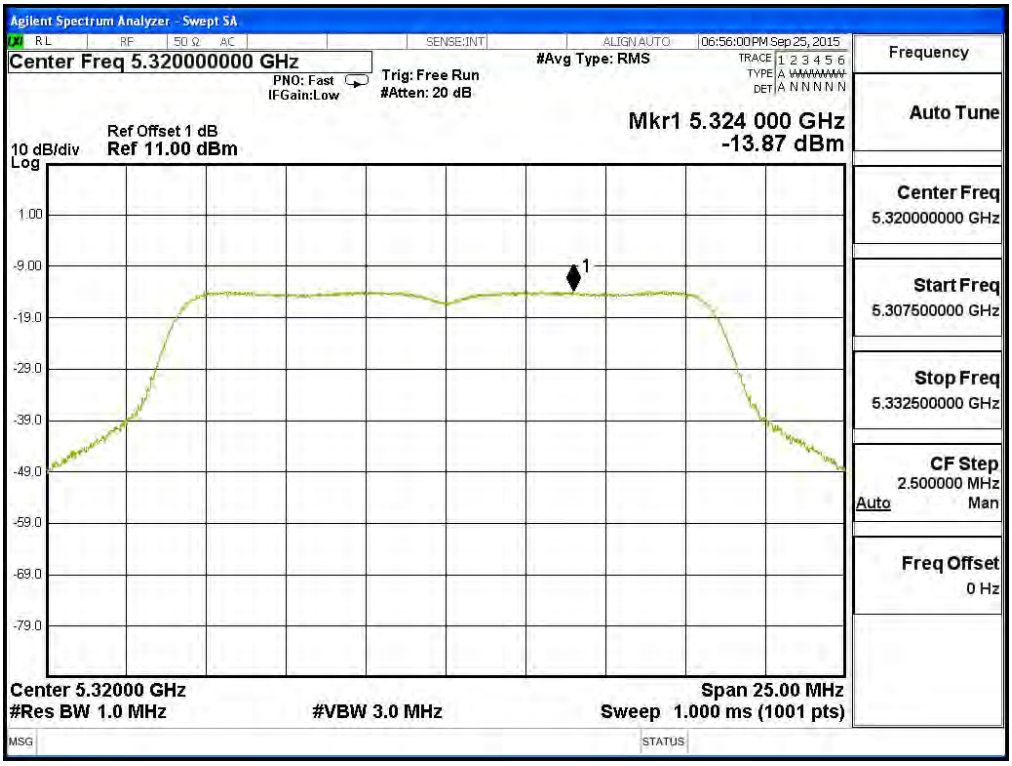
Channel 52: (Chain B)



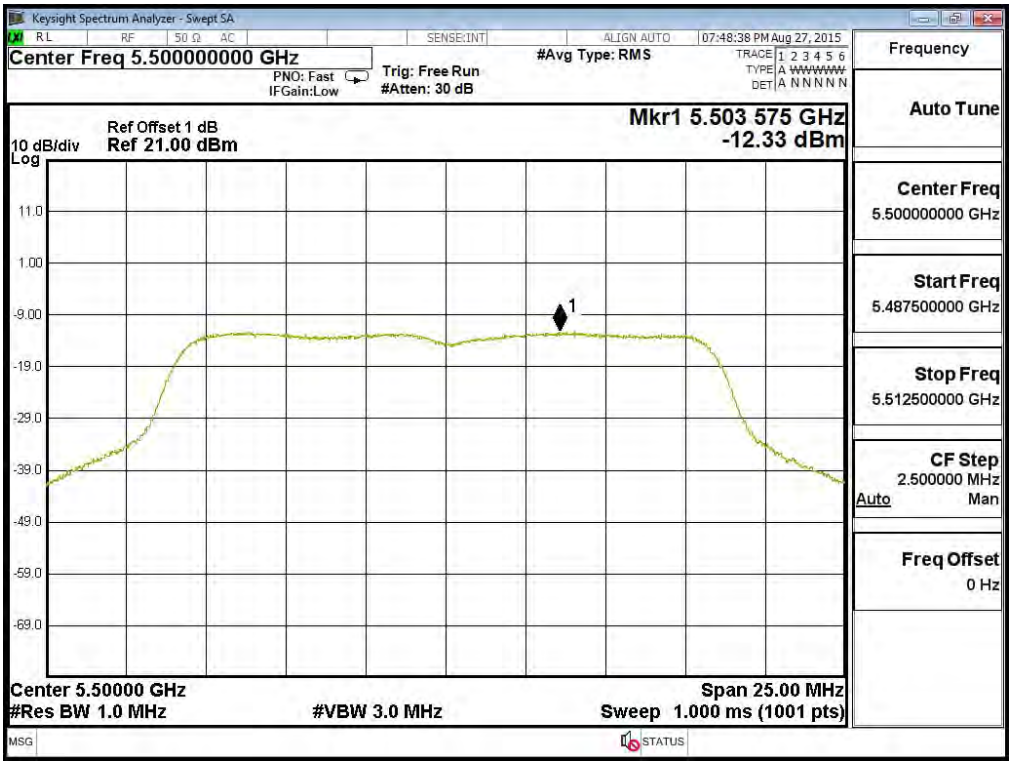
Channel 60: (Chain B)



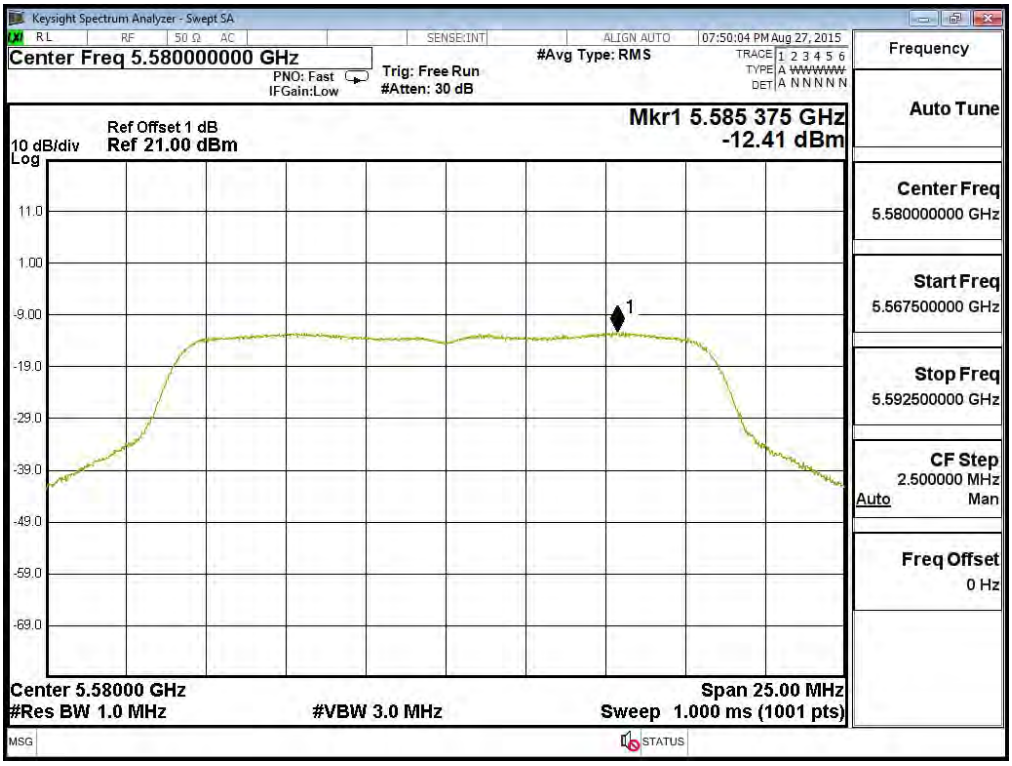
Channel 64: (Chain B)



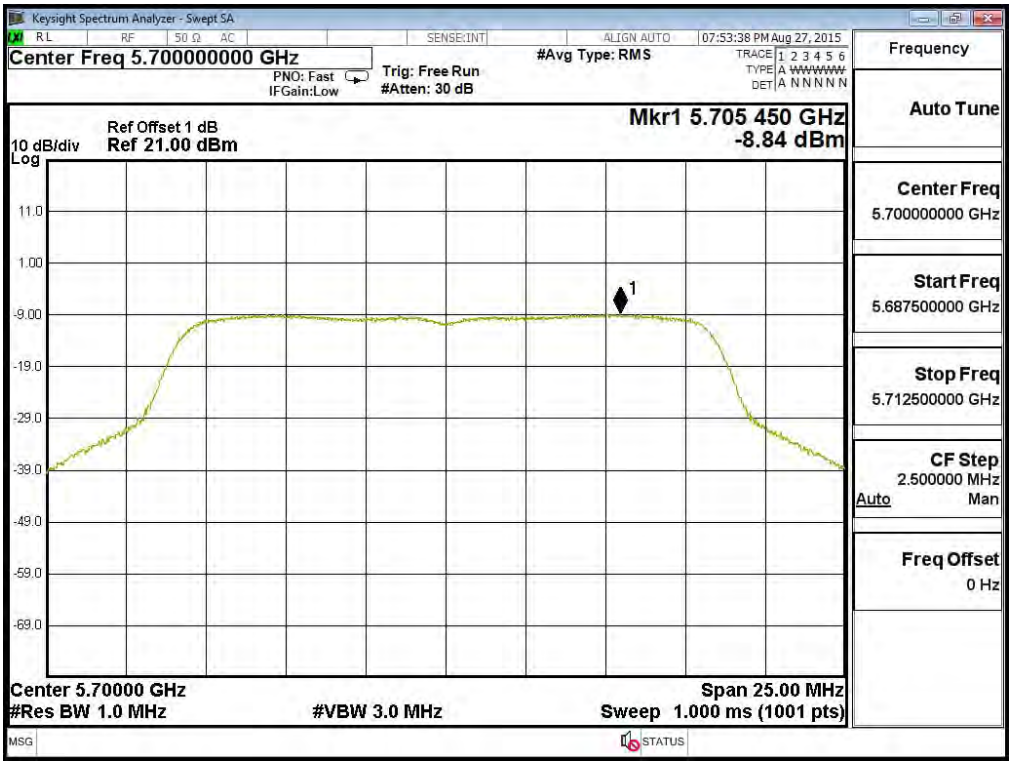
Channel 100: (Chain B)



Channel 116: (Chain B)



Channel 140: (Chain B)



Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 26: Transmit (802.11n-20BW 14.4Mbps)(Sector Antenna)

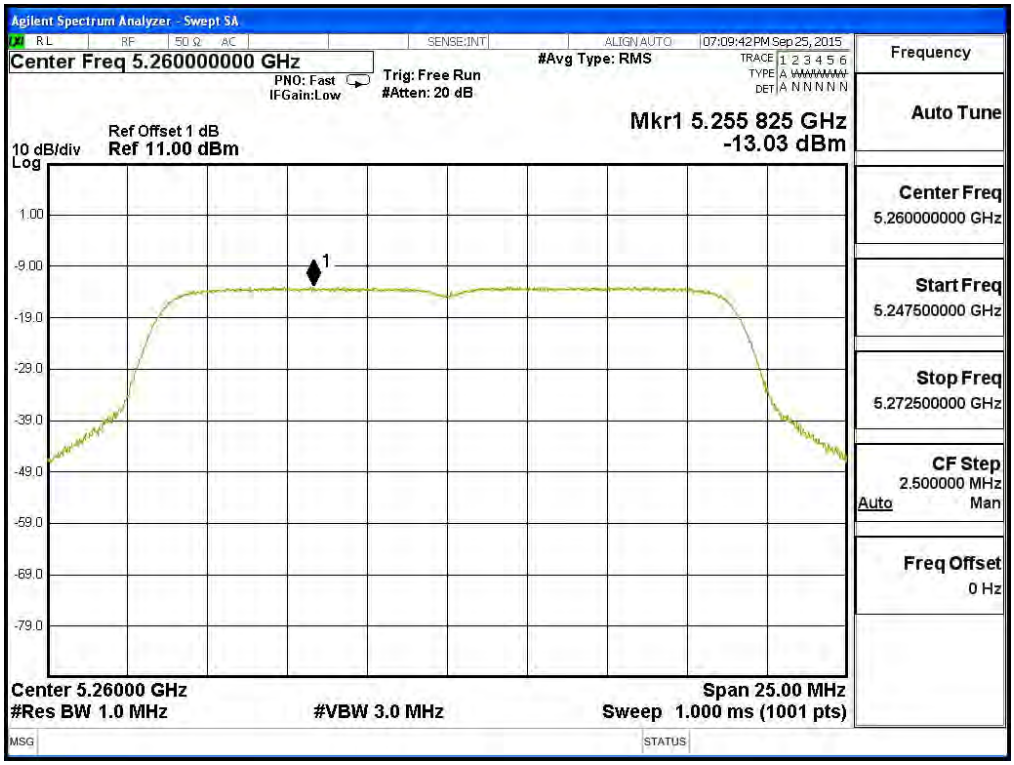
5250~5350MHz, 5470-5600 MHz and 5650-5725 MHz

Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Required Limit (dBm)	Result
52	5260	A	-13.034	-10.024	-3	Pass
		B	-13.514	-10.504	-3	Pass
60	5300	A	-12.875	-9.865	-3	Pass
		B	-14.299	-11.289	-3	Pass
64	5320	A	-12.818	-9.808	-3	Pass
		B	-14.194	-11.184	-3	Pass
100	5500	A	-8.439	-5.429	-3	Pass
		B	-12.654	-9.644	-3	Pass
116	5580	A	-7.800	-4.790	-3	Pass
		B	-11.991	-8.981	-3	Pass
140	5700	A	-10.588	-7.578	-3	Pass
		B	-9.332	-6.322	-3	Pass

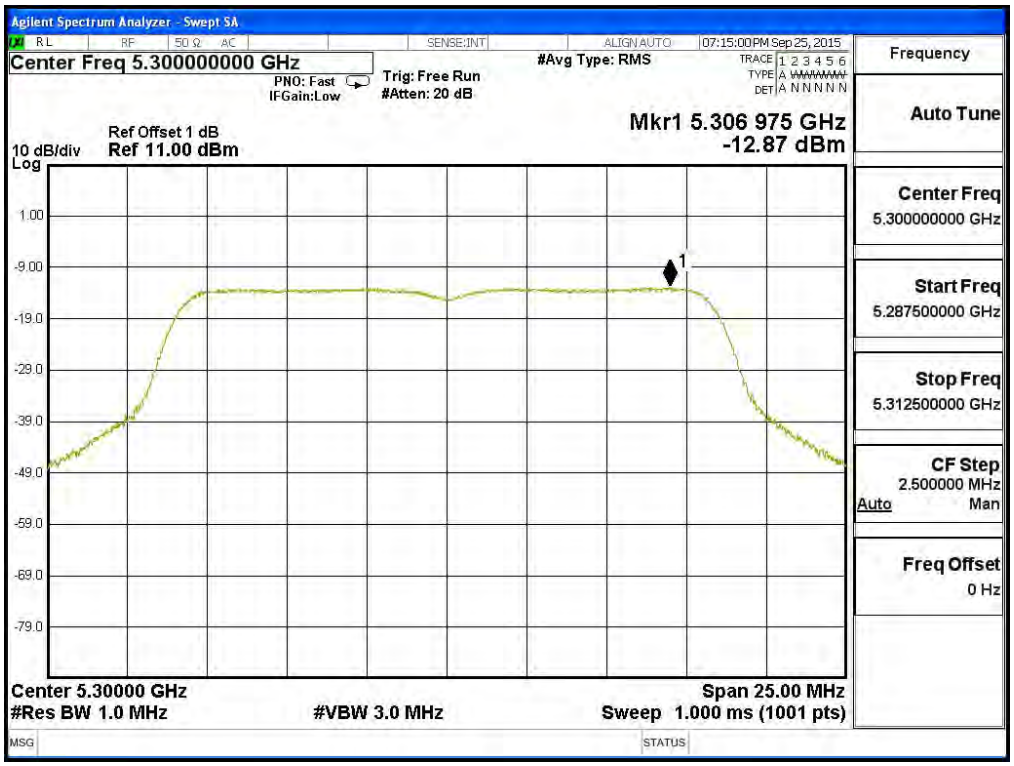
Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.
2.Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas).

.

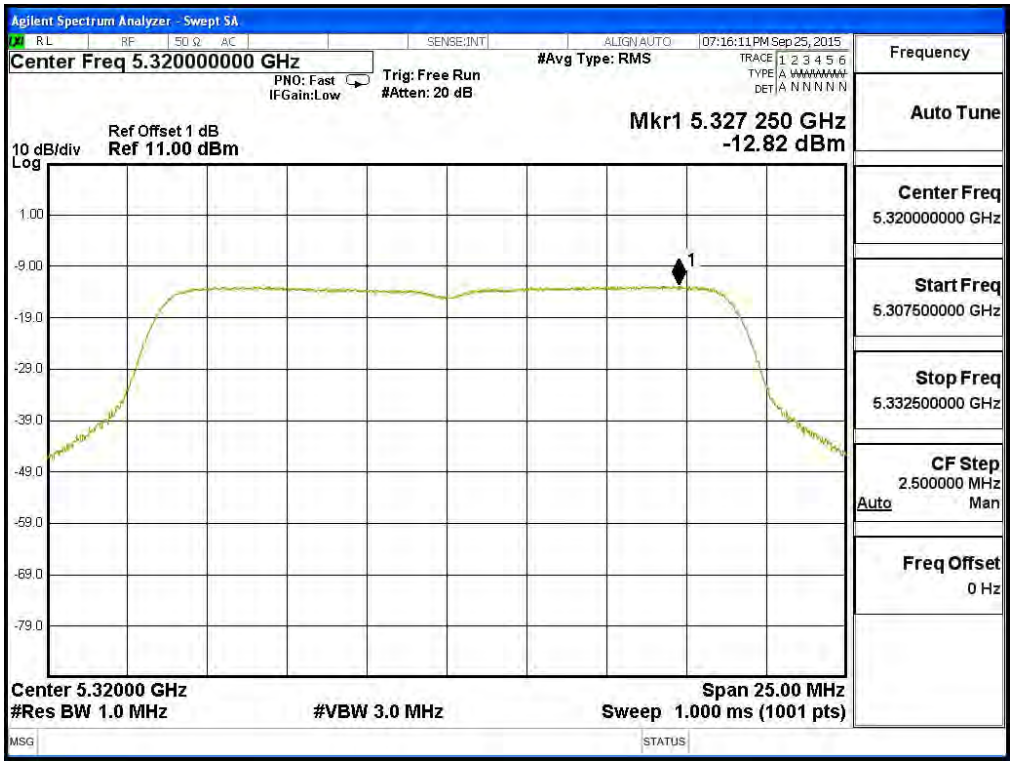
Channel 52: (Chain A)



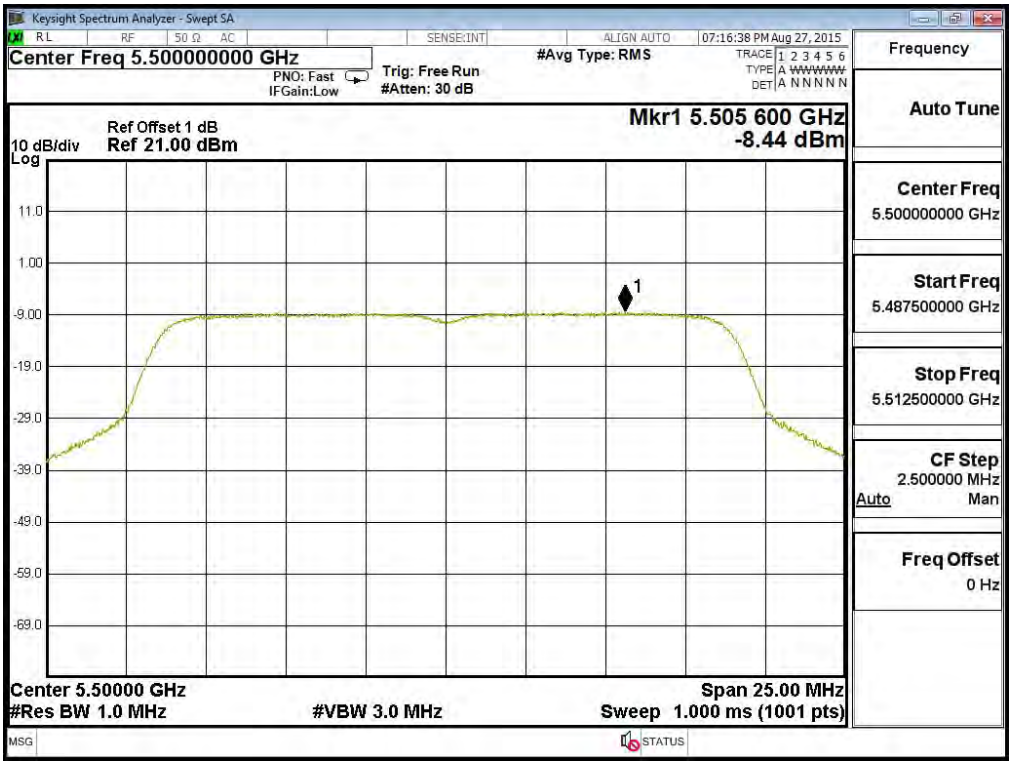
Channel 60: (Chain A)



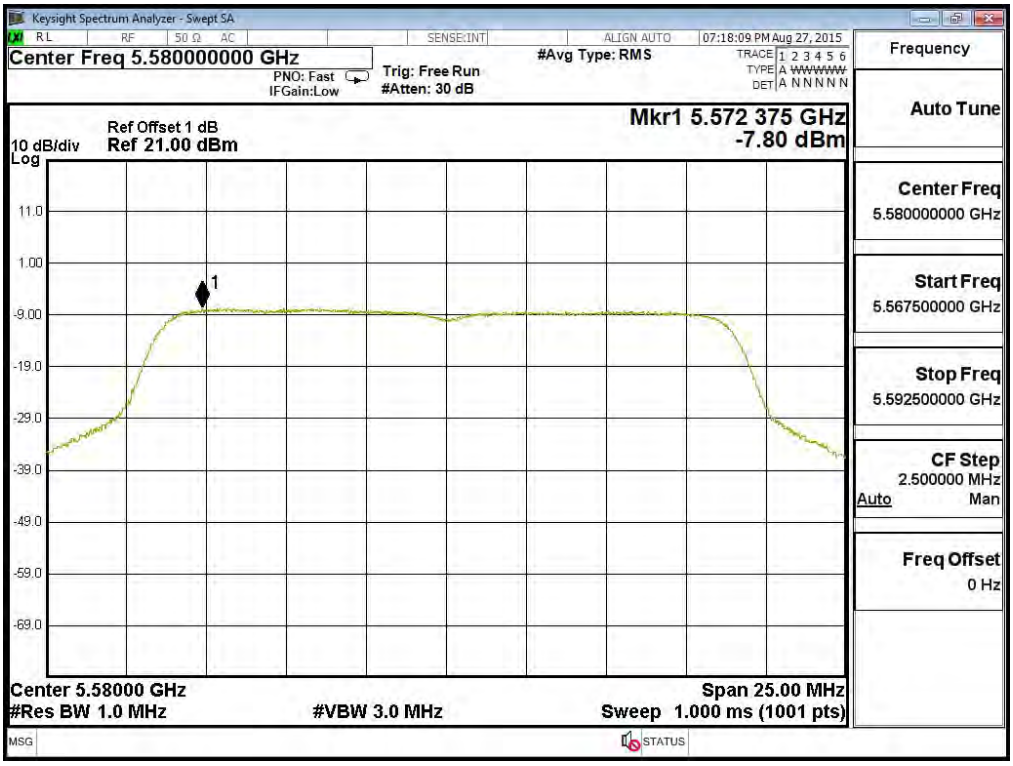
Channel 64: (Chain A)



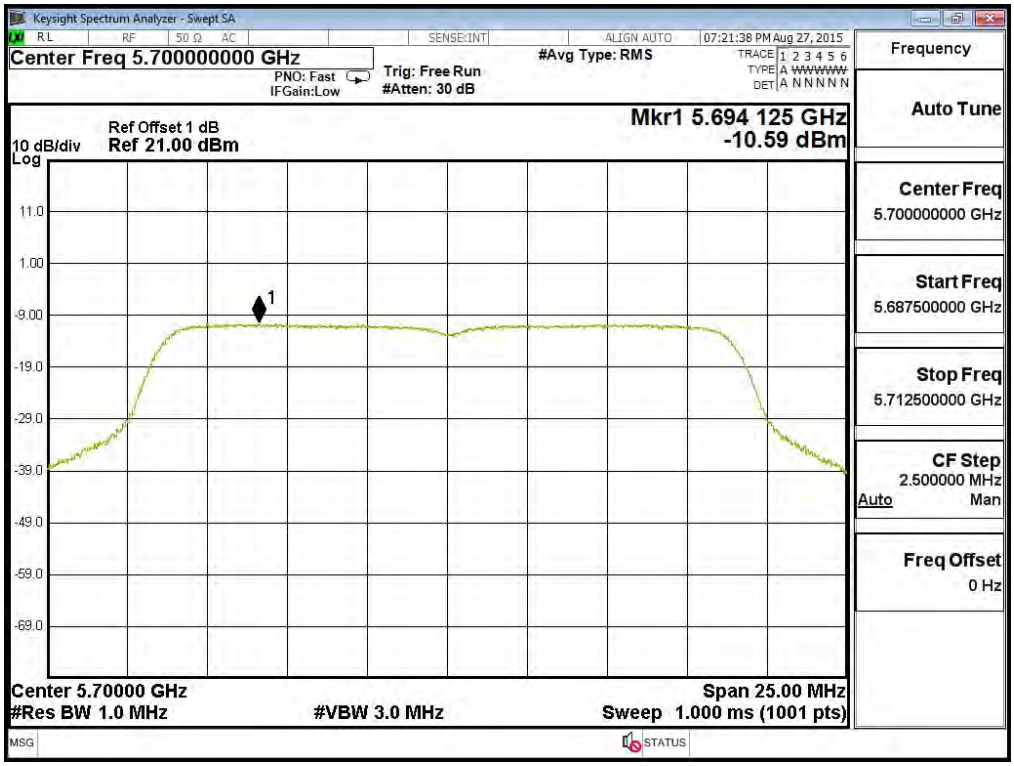
Channel 100: (Chain A)



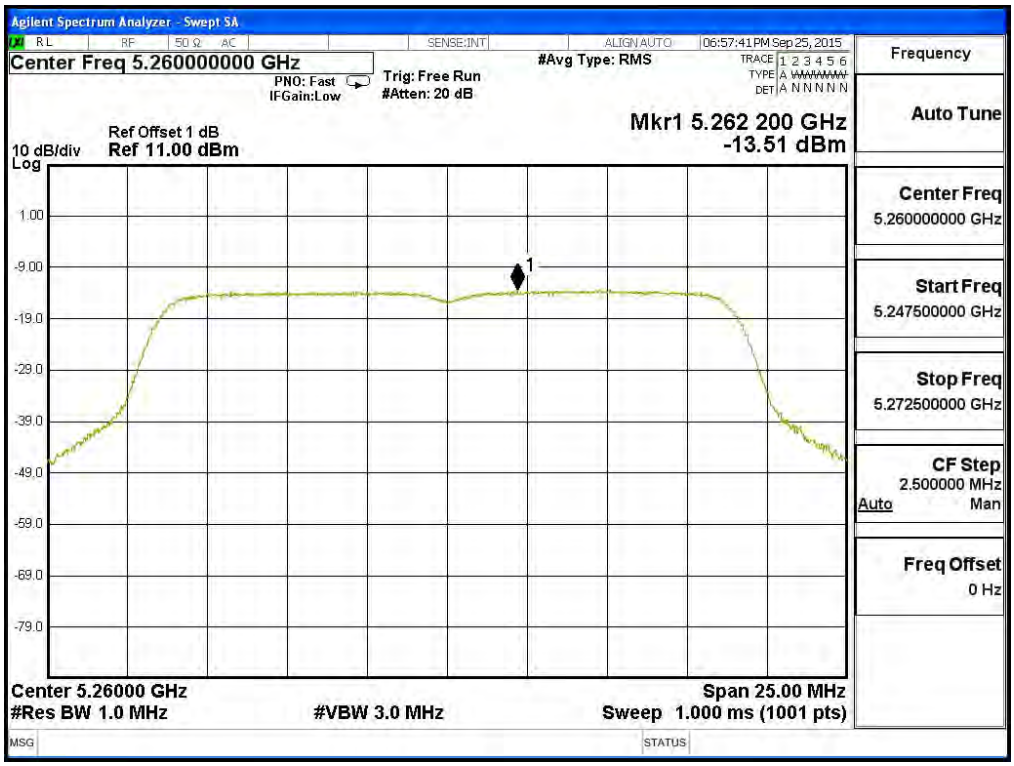
Channel 116: (Chain A)



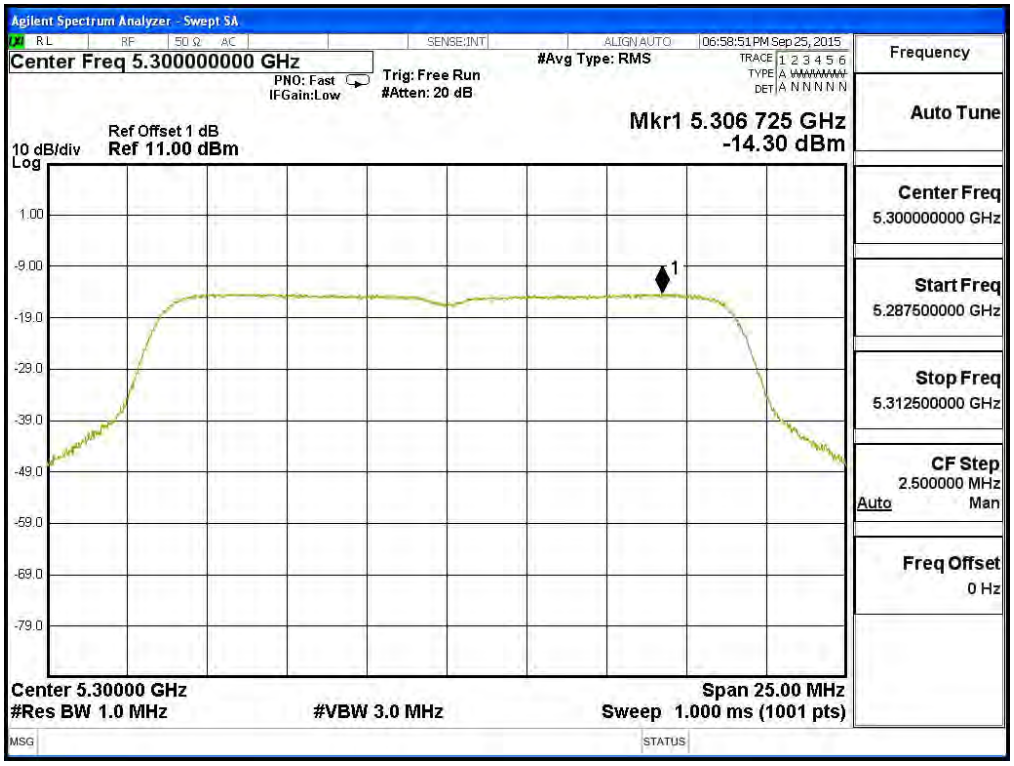
Channel 140: (Chain A)



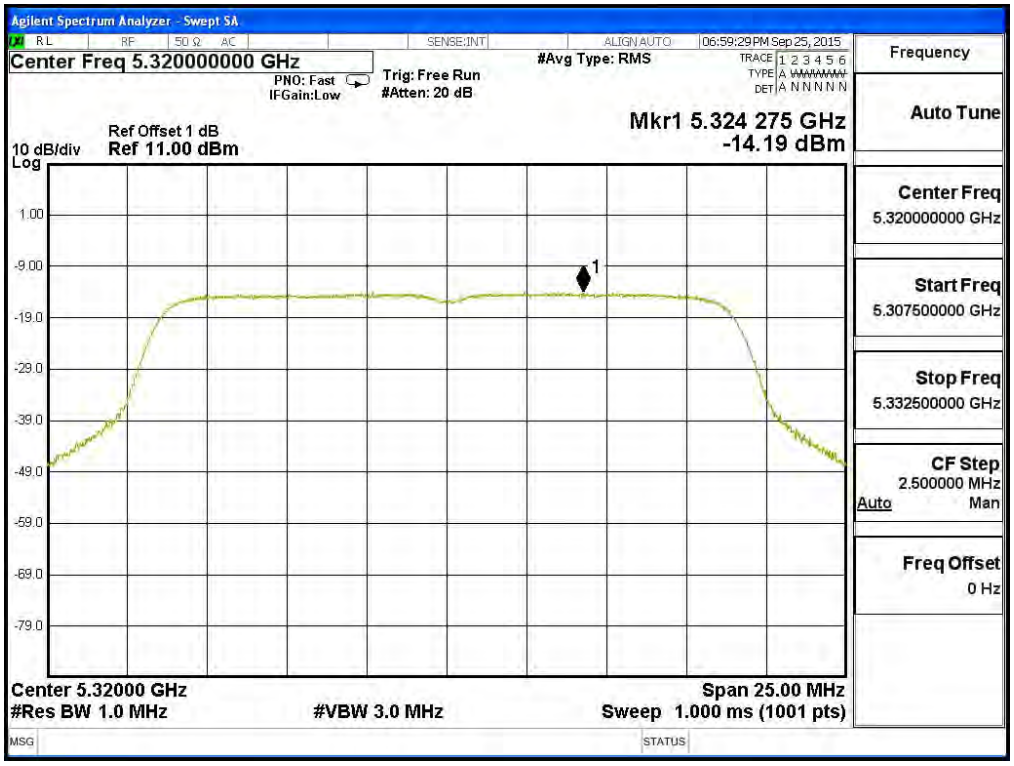
Channel 52: (Chain B)



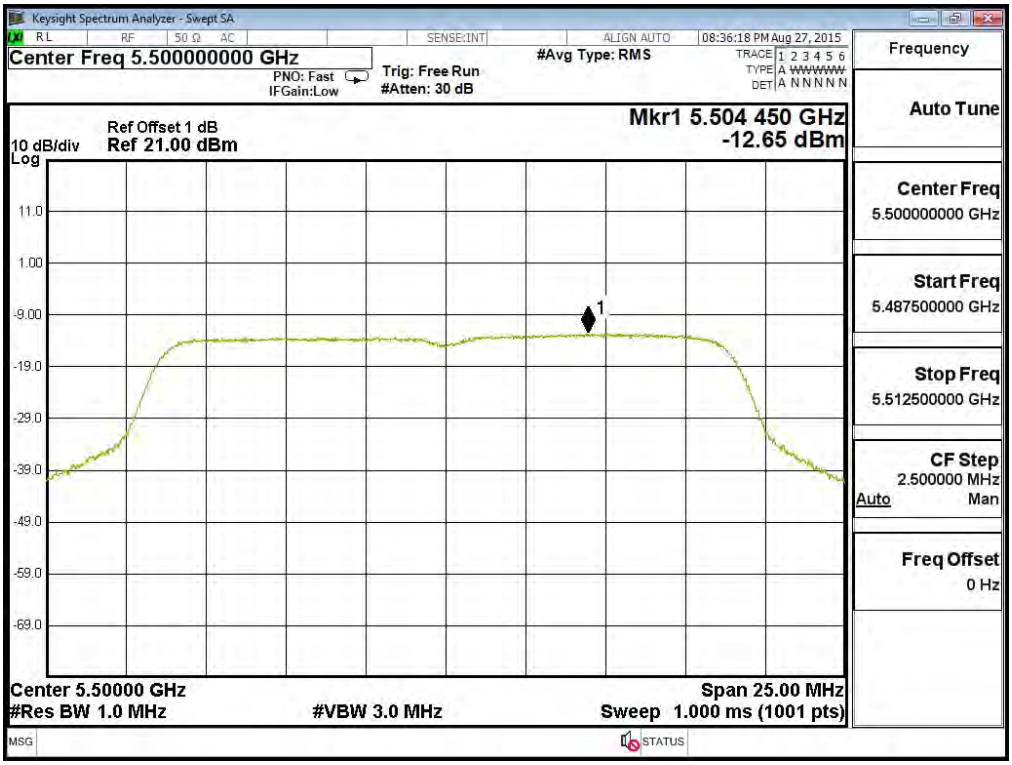
Channel 60: (Chain B)



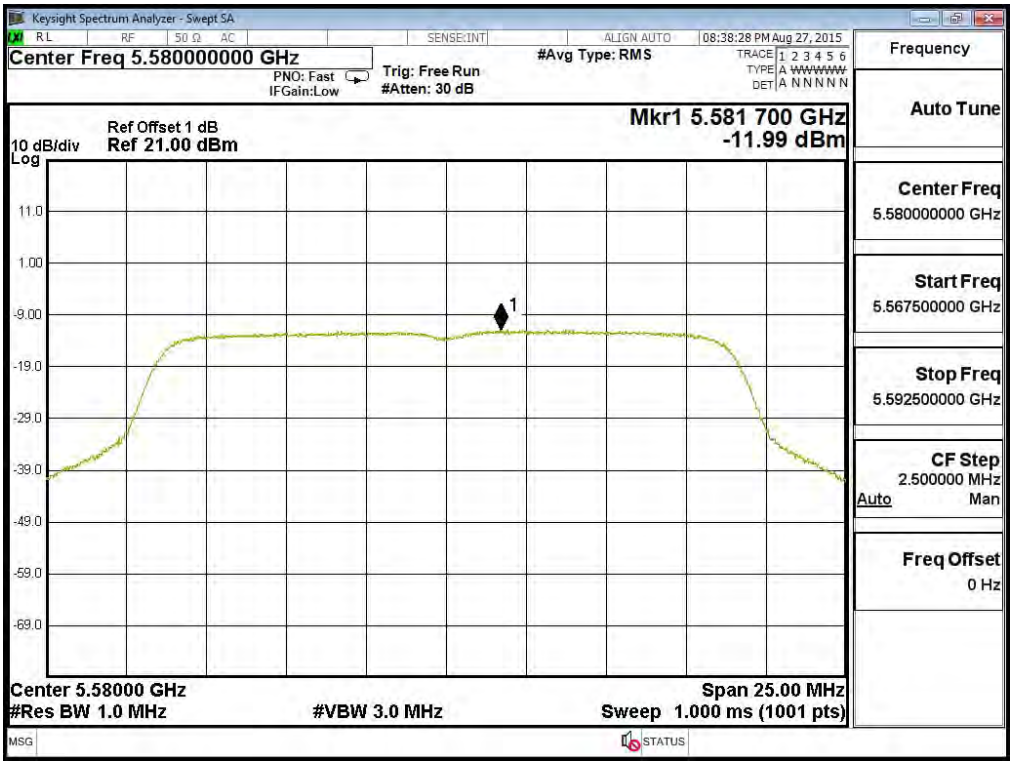
Channel 64: (Chain B)



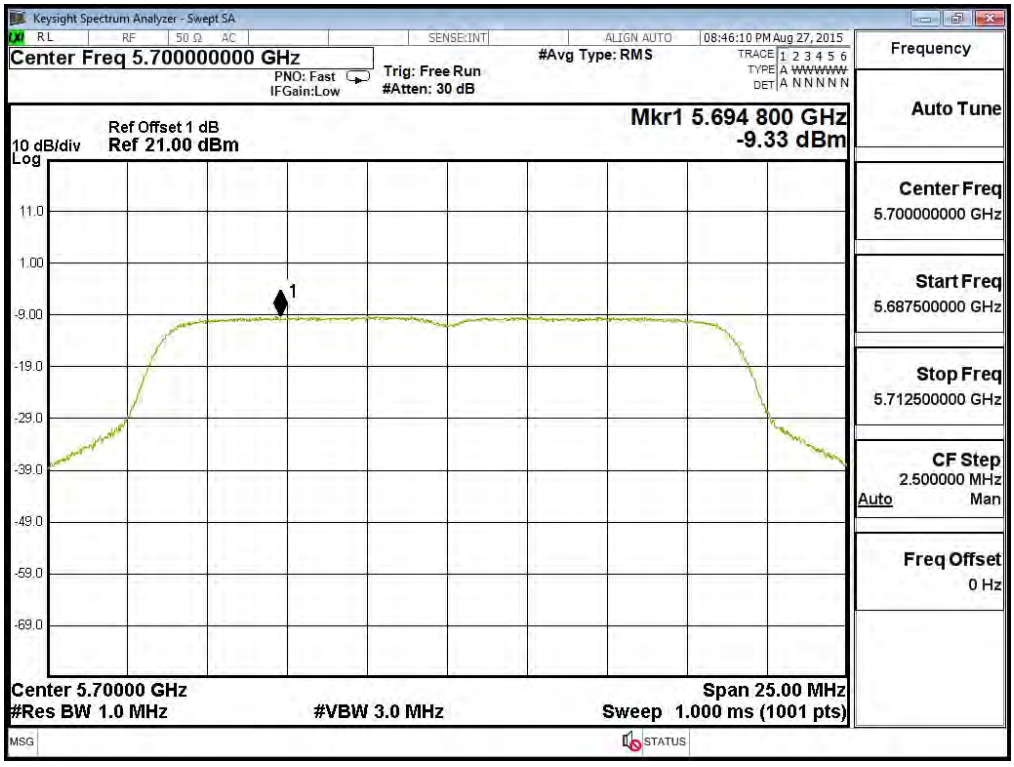
Channel 100: (Chain B)



Channel 116: (Chain B)



Channel 140: (Chain B)



Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 27: Transmit (802.11n-40BW 30Mbps)(Sector Antenna)

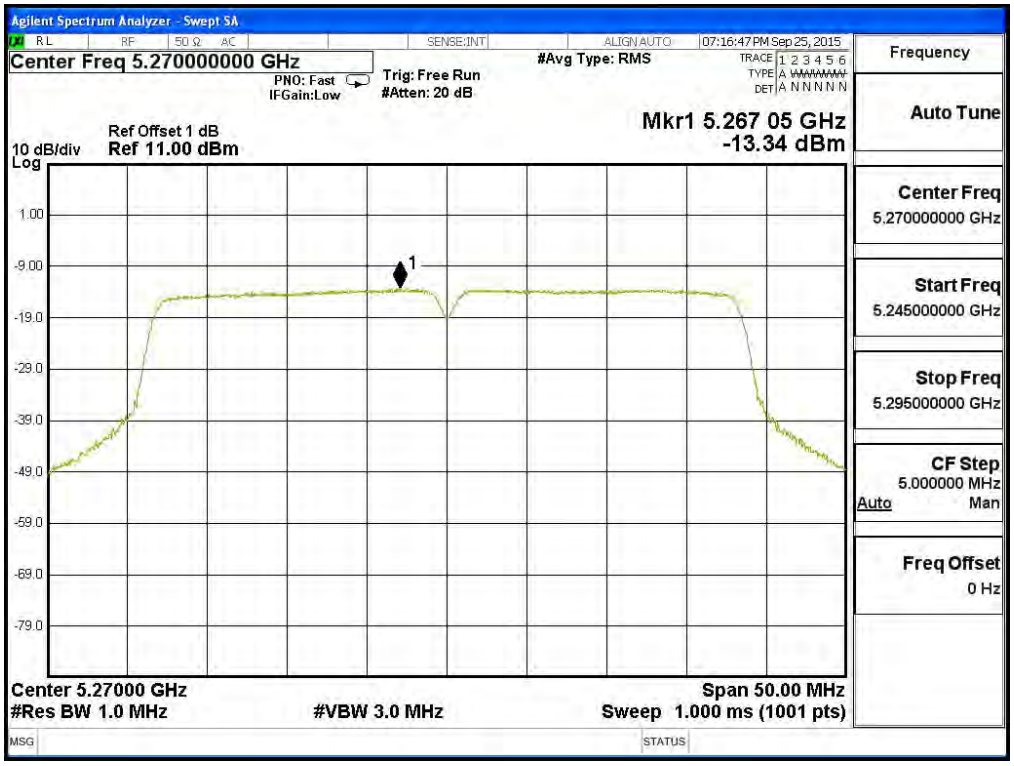
5250~5350MHz, 5470-5600 MHz and 5650-5725 MHz

Channel Number	Frequency (MHz)	Chain	PPSD/MHz (dBm)	Total PPSD/MHz (dBm)	Required Limit (dBm)	Result
54	5270	A	-13.338	-10.328	-3	Pass
		B	-13.801	-10.791	-3	Pass
62	5310	A	-12.361	-9.351	-3	Pass
		B	-13.711	-10.701	-3	Pass
102	5510	A	-11.172	-8.162	-3	Pass
		B	-16.116	-13.106	-3	Pass
110	5550	A	-11.128	-8.118	-3	Pass
		B	-16.331	-13.321	-3	Pass
134	5670	A	-12.018	-9.008	-3	Pass
		B	-12.009	-8.999	-3	Pass

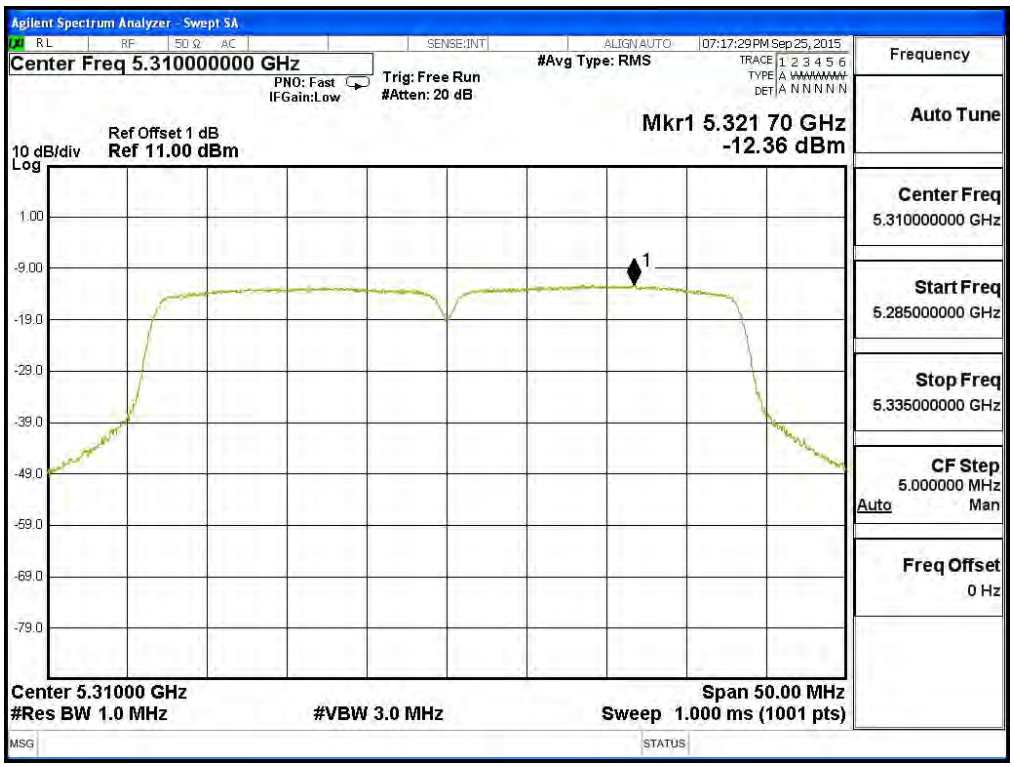
Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.

2. Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas).

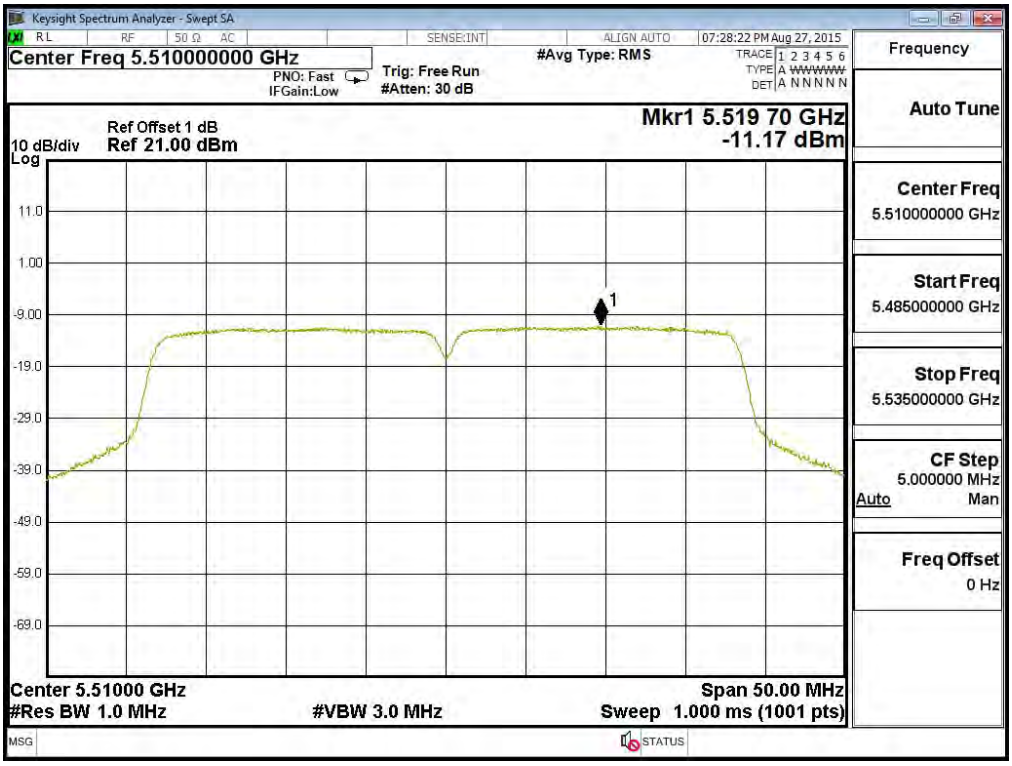
Channel 54: (Chain A)



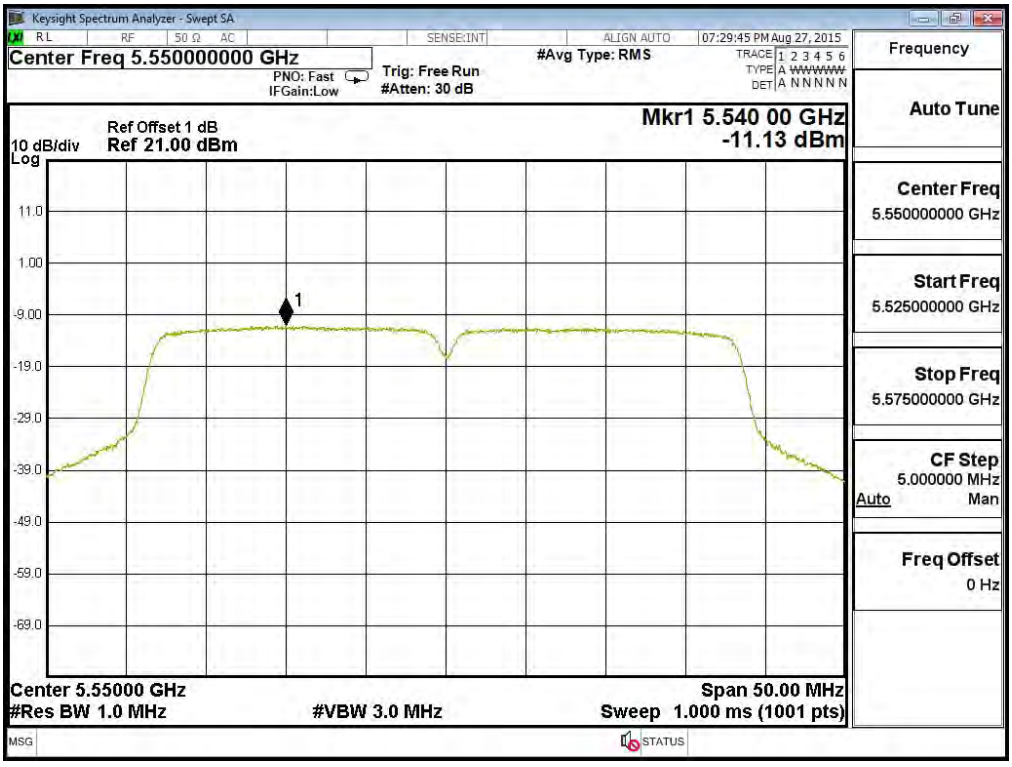
Channel 62: (Chain A)



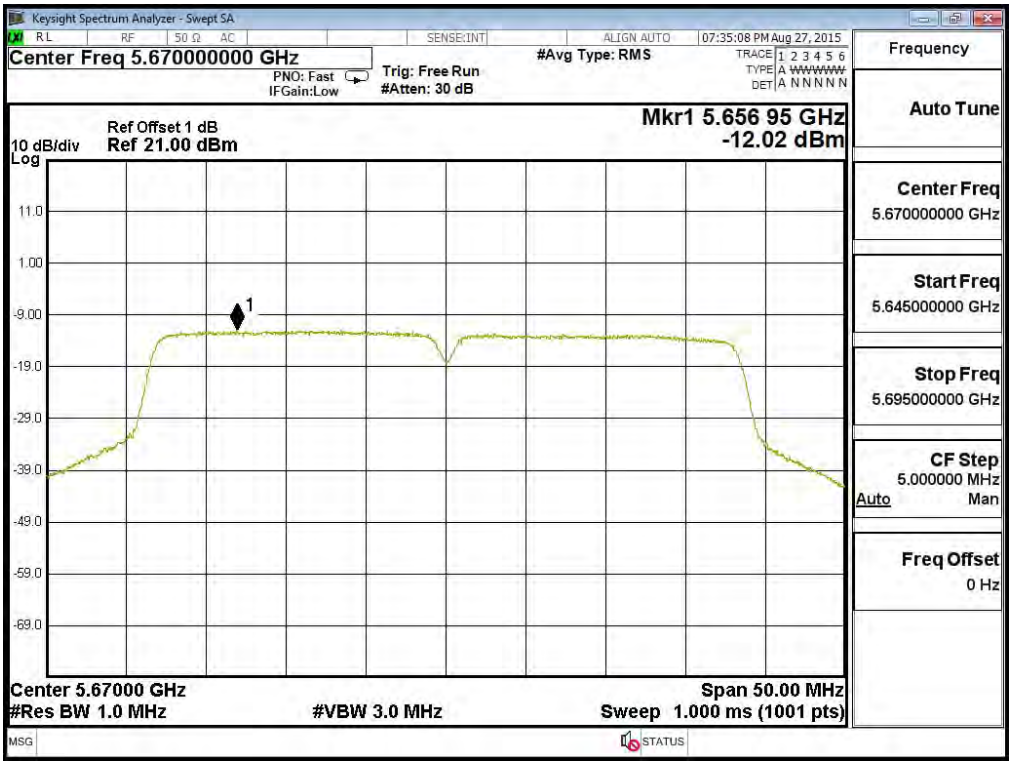
Channel 102: (Chain A)



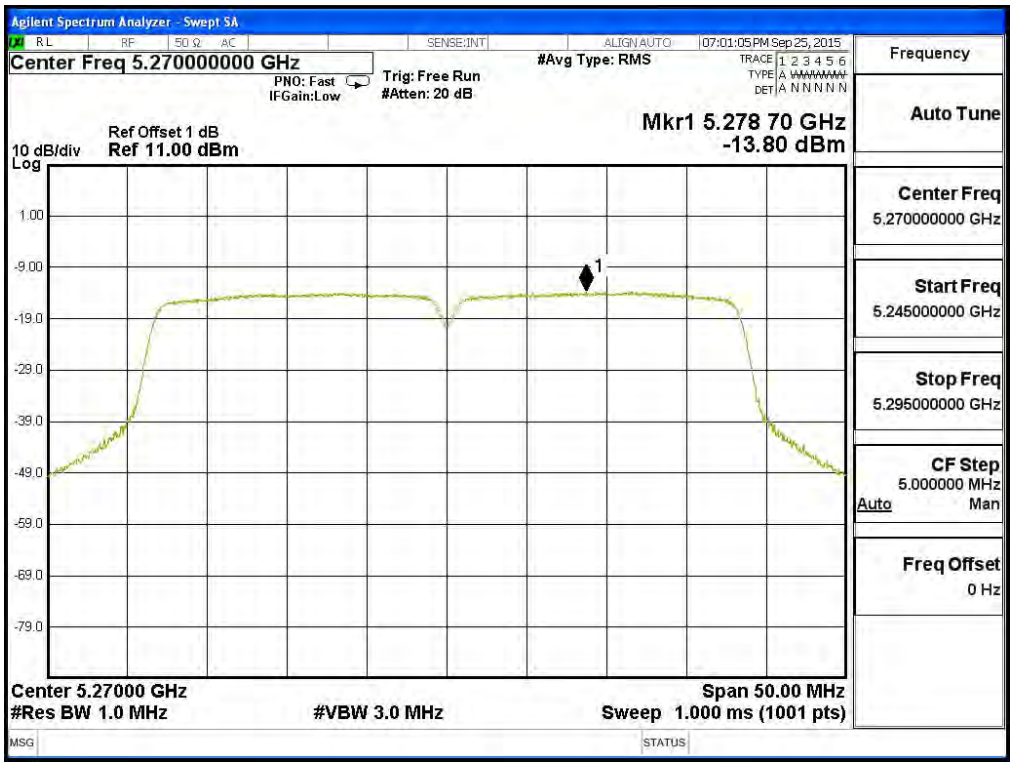
Channel 110: (Chain A)



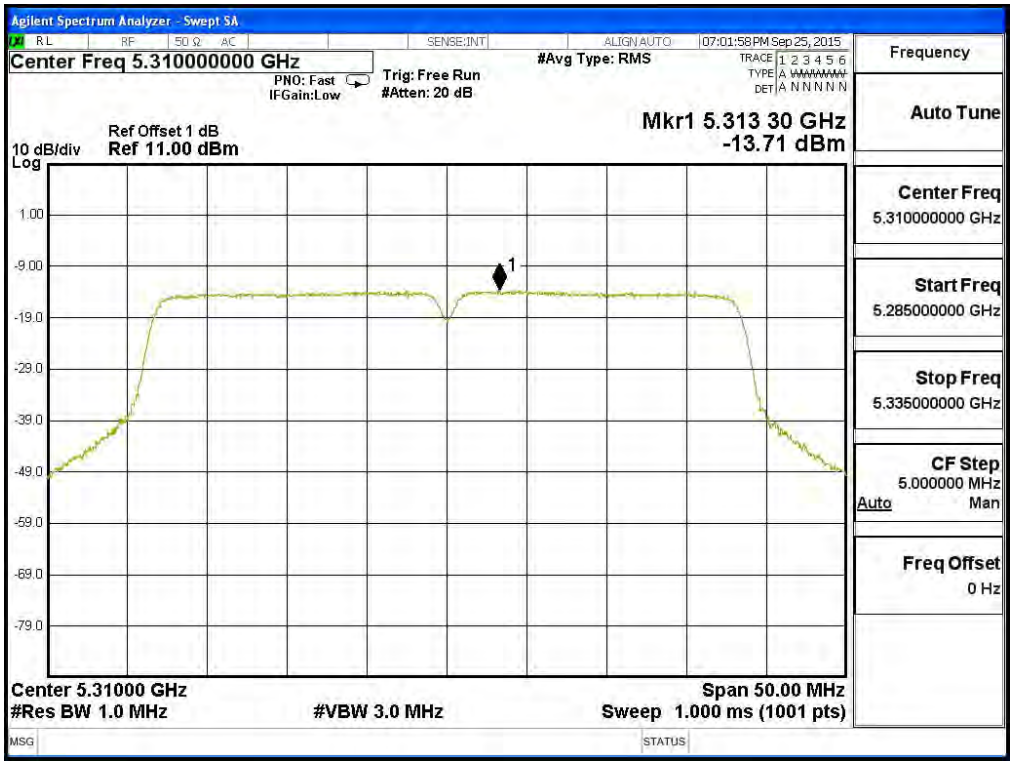
Channel 134: (Chain A)



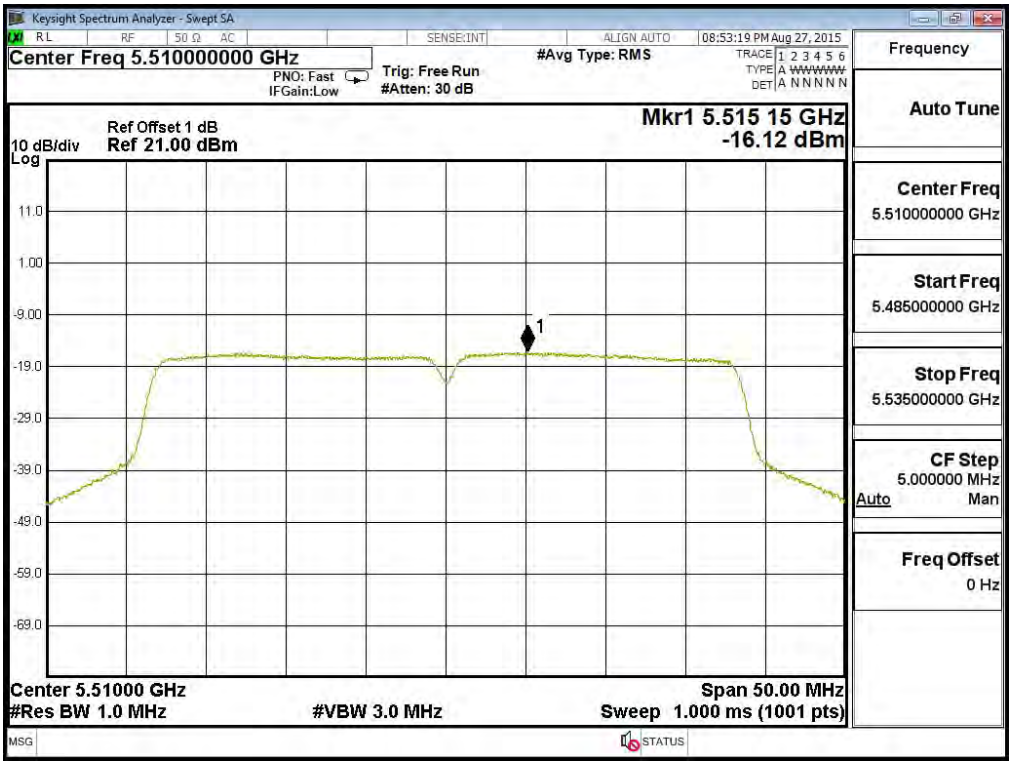
Channel 54: (Chain B)



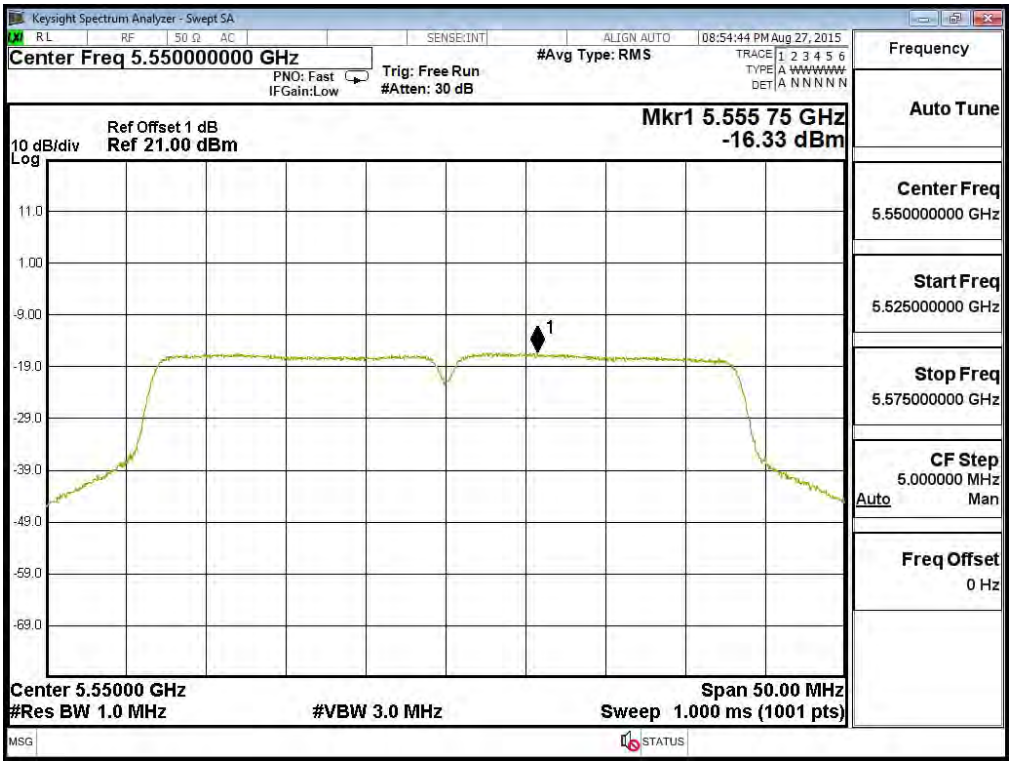
Channel 62: (Chain B)



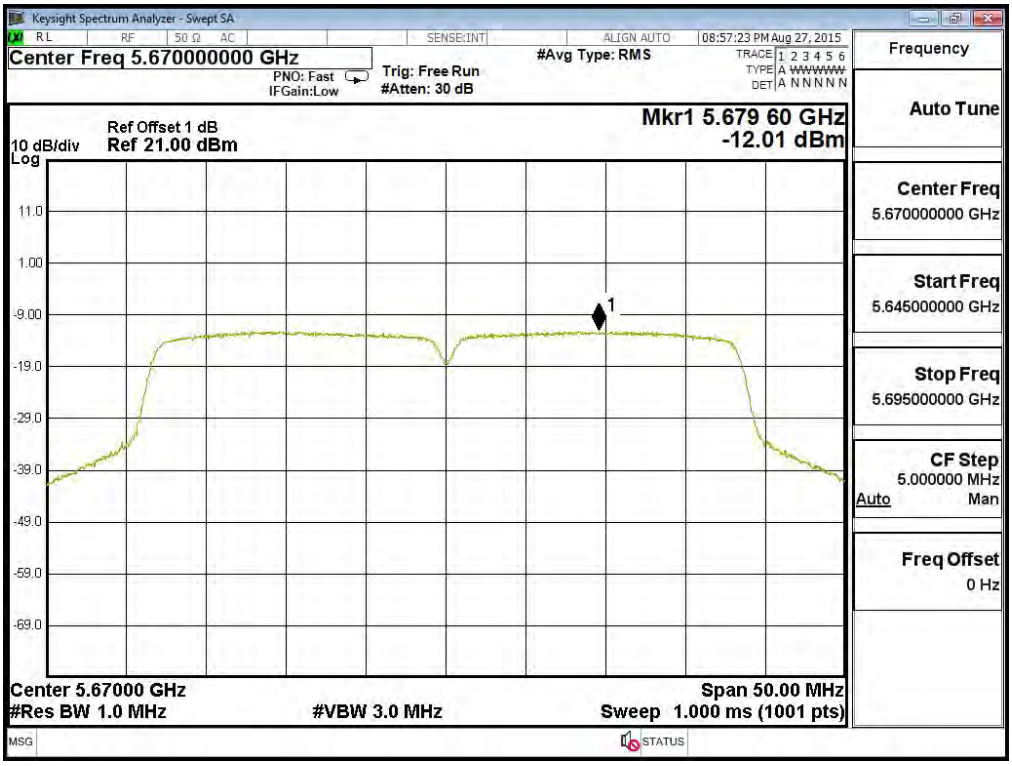
Channel 102: (Chain B)



Channel 110: (Chain B)



Channel 134: (Chain B)

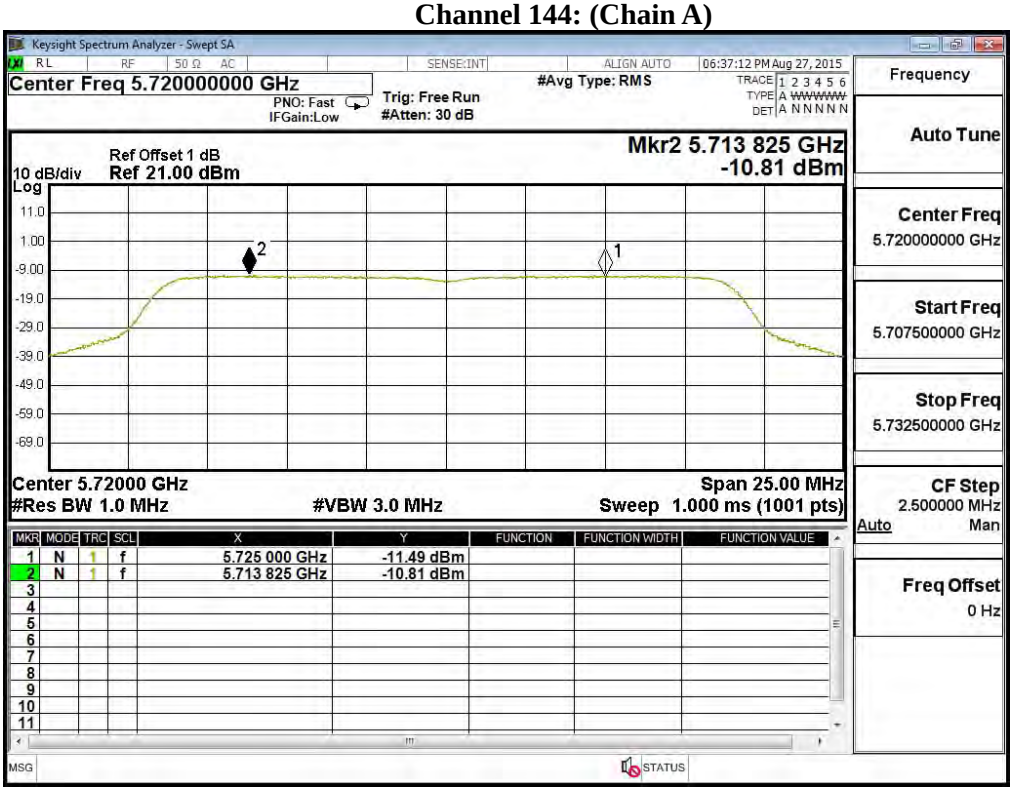


Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 28: Transmit (802.11ac-20BW-14.4Mbps)(Sector Antenna)

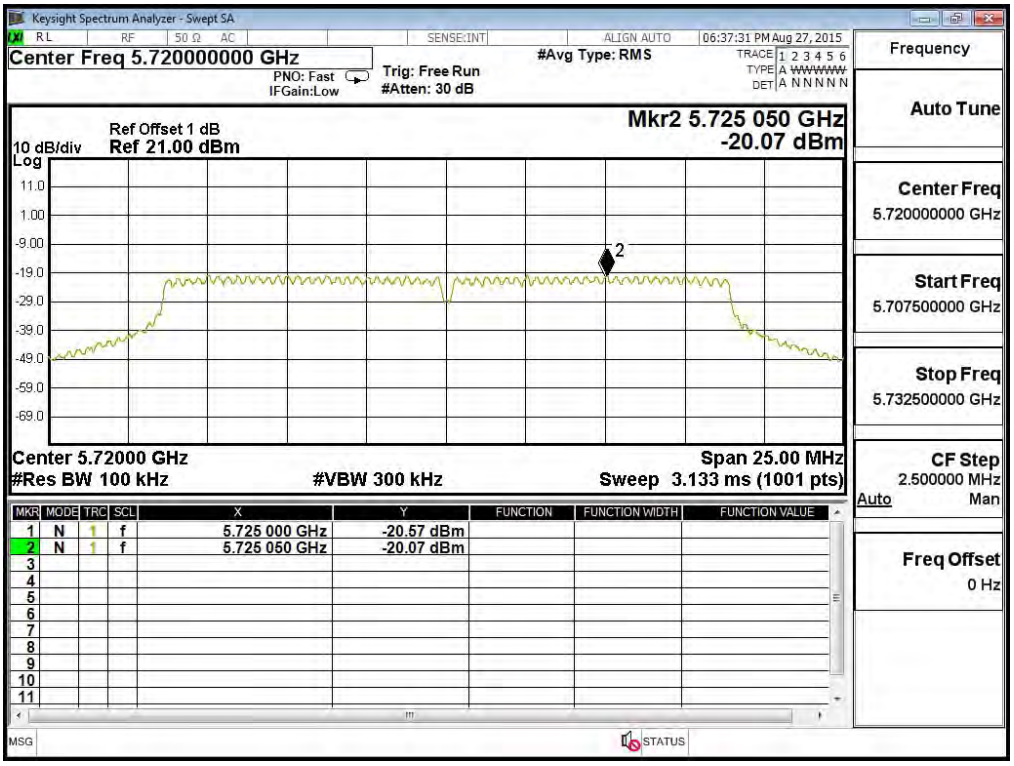
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
144	5720(Band3)	A	-10.810	--	-7.800	-3	Pass
		B	-9.020	--	-6.010	-3	Pass
144	5720(Band4)	A	-20.070	6.980	-10.080	30	Pass
		B	-18.220	6.980	-8.230	30	Pass

Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.
2.Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas) + BWCF.

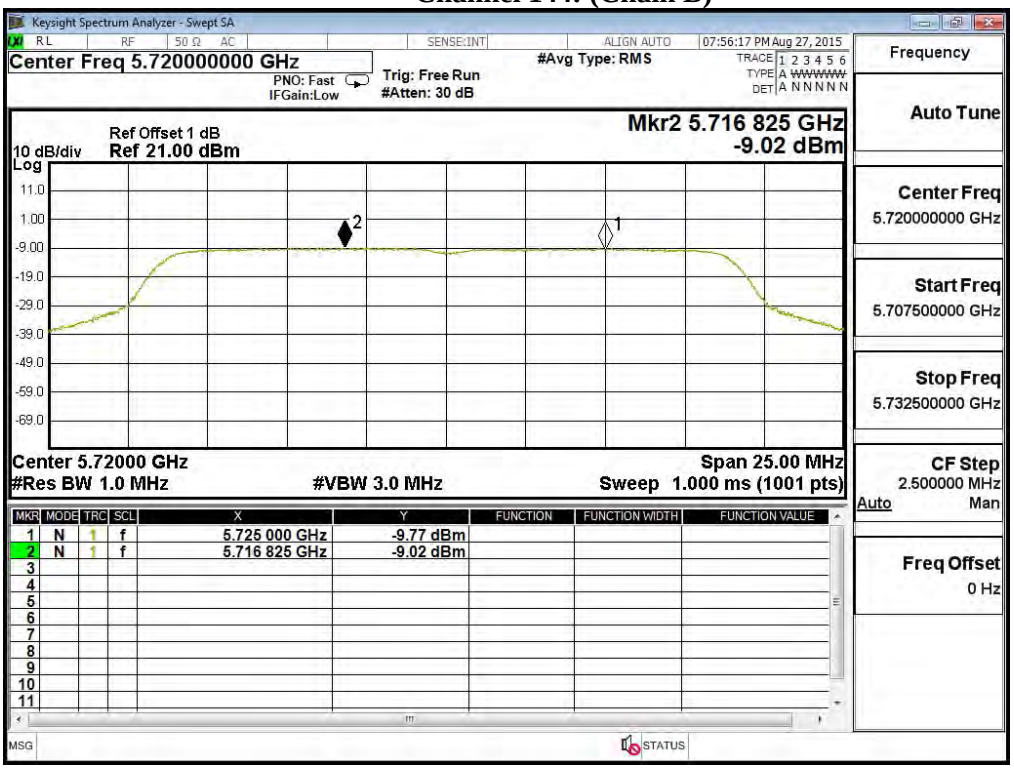
Channel 144: (Chain A)



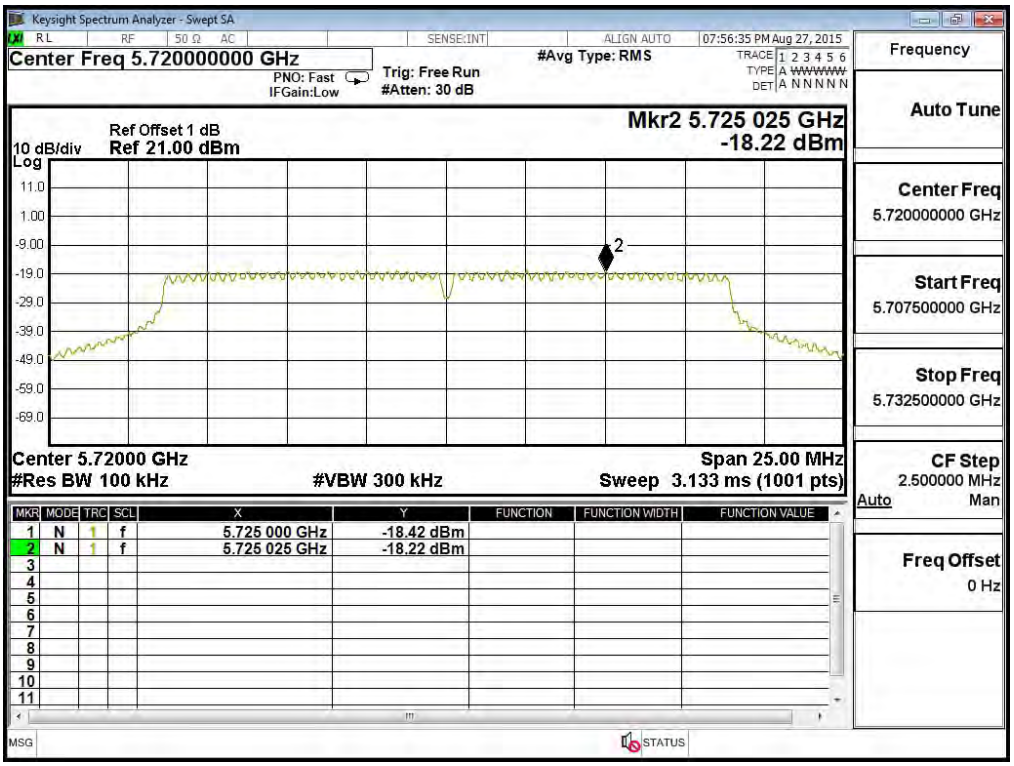
Channel 144: (Chain A)



Channel 144: (Chain B)



Channel 144: (Chain B)

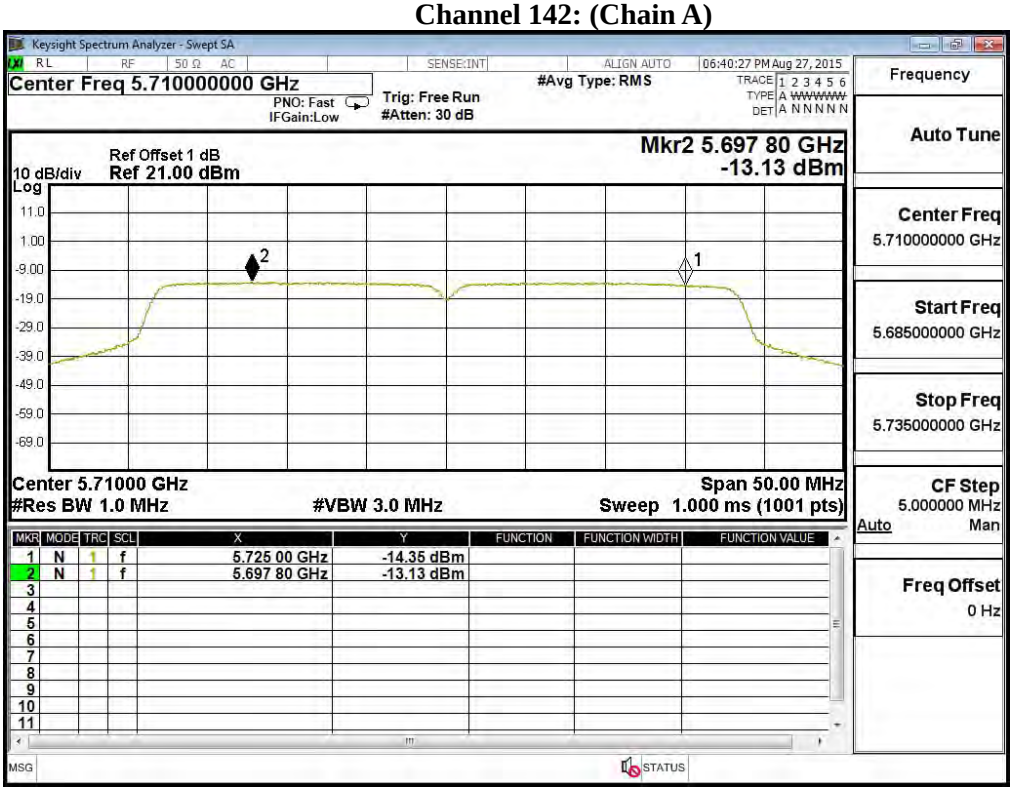


Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 29: Transmit (802.11ac-40BW-30Mbps)(Sector Antenna)

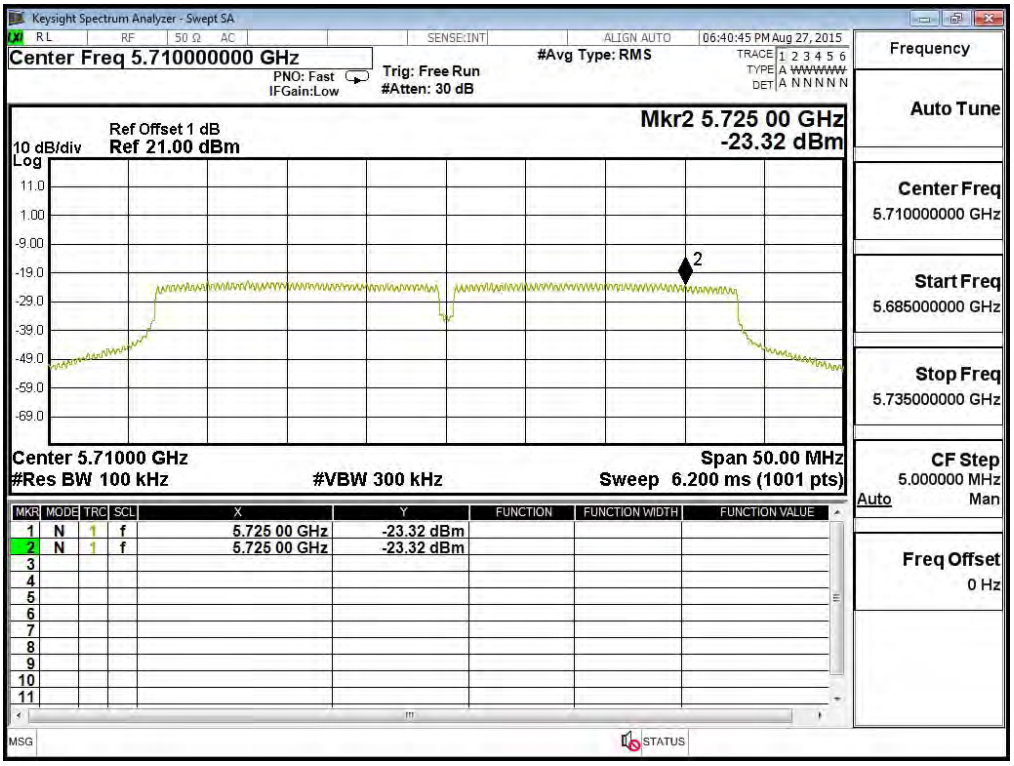
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
142	5710(Band3)	A	-13.130	--	-10.120	-3	Pass
		B	-11.500	--	-8.490	-3	Pass
142	5710(Band4)	A	-23.320	6.980	-13.330	30	Pass
		B	-20.770	6.980	-10.780	30	Pass

Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.
2.Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas) + BWCF.

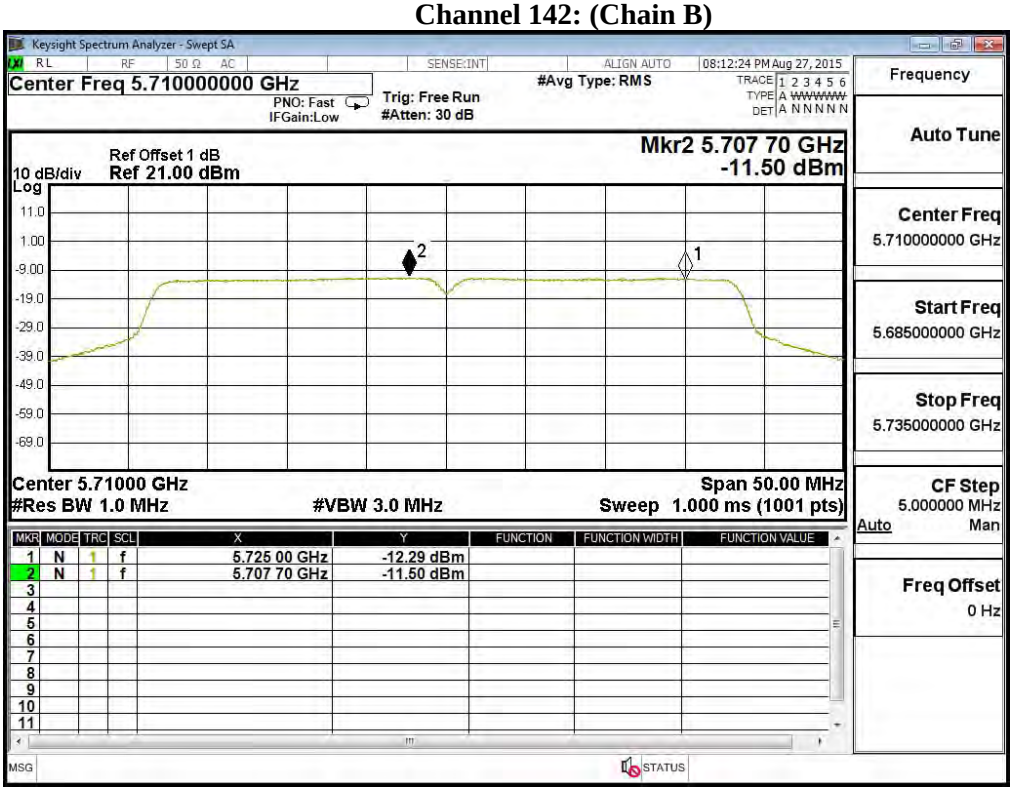
Channel 142: (Chain A)



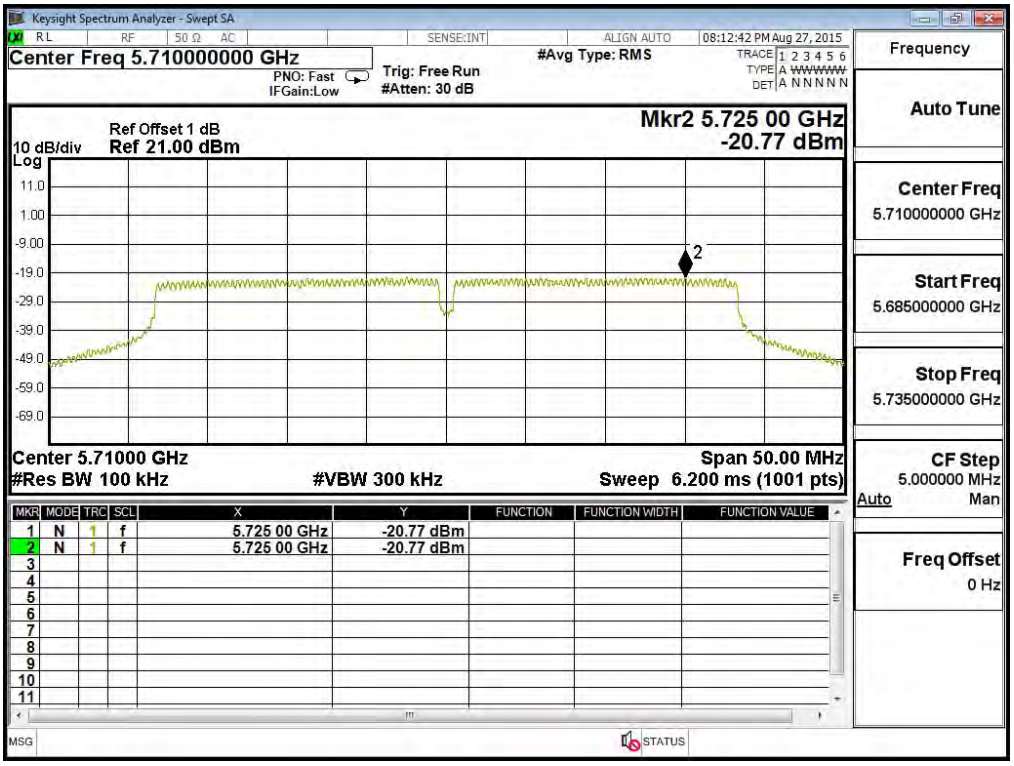
Channel 142: (Chain A)



Channel 142: (Chain B)



Channel 142: (Chain B)



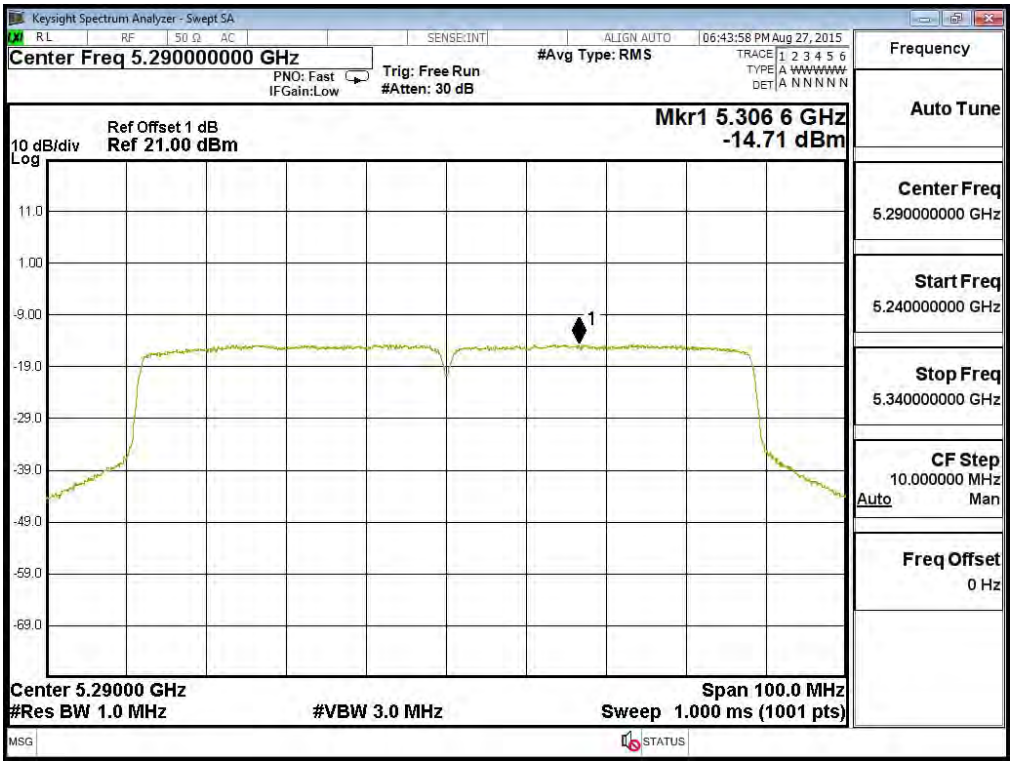
Product : 802.11 ac PCIe Module
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 30: Transmit (802.11ac-80BW-65Mbps)(Sector Antenna)

5250~5350MHz, 5470-5600 MHz and 5650-5725 MHz

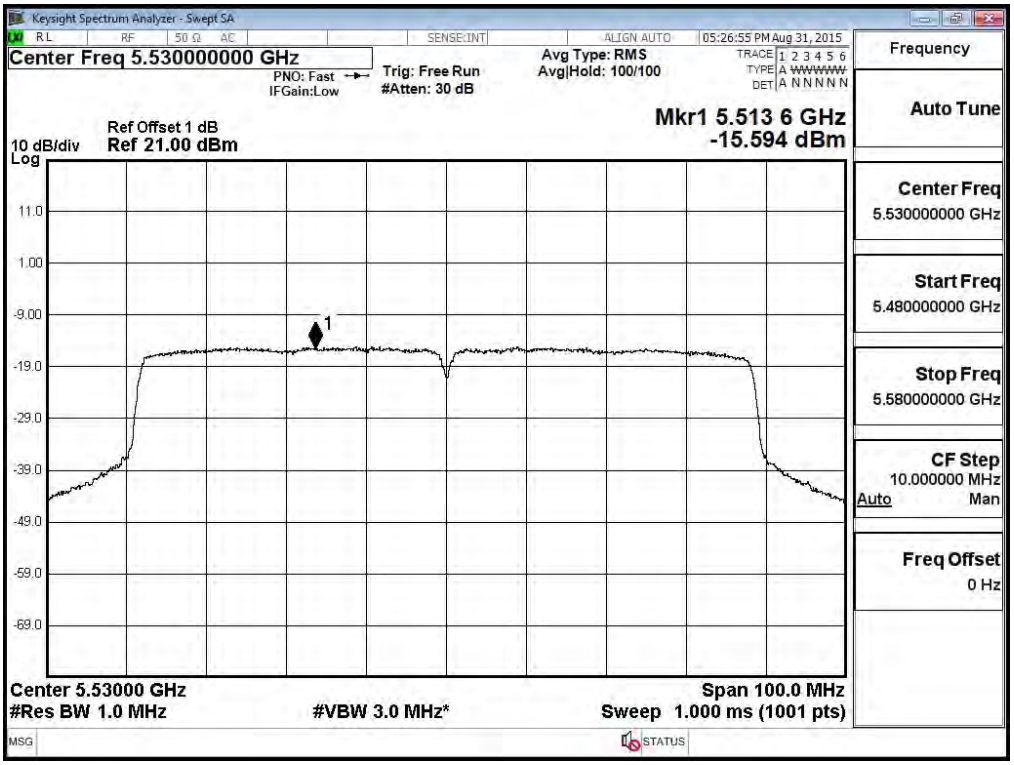
Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	BWCF (dB)	Total PPSD (dBm)[1]	Required Limit (dBm)	Result
58	5290	A	-14.710	--	-11.700	-3.0	Pass
		B	-15.760	--	-12.750	-3.0	Pass
106	5530	A	-15.594	--	-12.584	-3.0	Pass
		B	-19.900	--	-16.890	-3.0	Pass
122	5610	A	-14.290	--	-11.280	-3.0	Pass
		B	-17.960	--	-14.950	-3.0	Pass
138	5690 (Band3)	A	-14.960	--	-11.950	-3.0	Pass
		B	-14.460	--	-11.450	-3.0	Pass
138	5690 (Band4)	A	-26.580	6.980	-16.590	30	Pass
		B	-24.670	6.980	-14.680	30	Pass

Note: 1.The quantity 10*log 2 (two antennas) is added to the spectrum peak value according to document 662911 D01.
2.Total PPSD Value = PPSD/MHz value + 10*log 2 (two antennas)

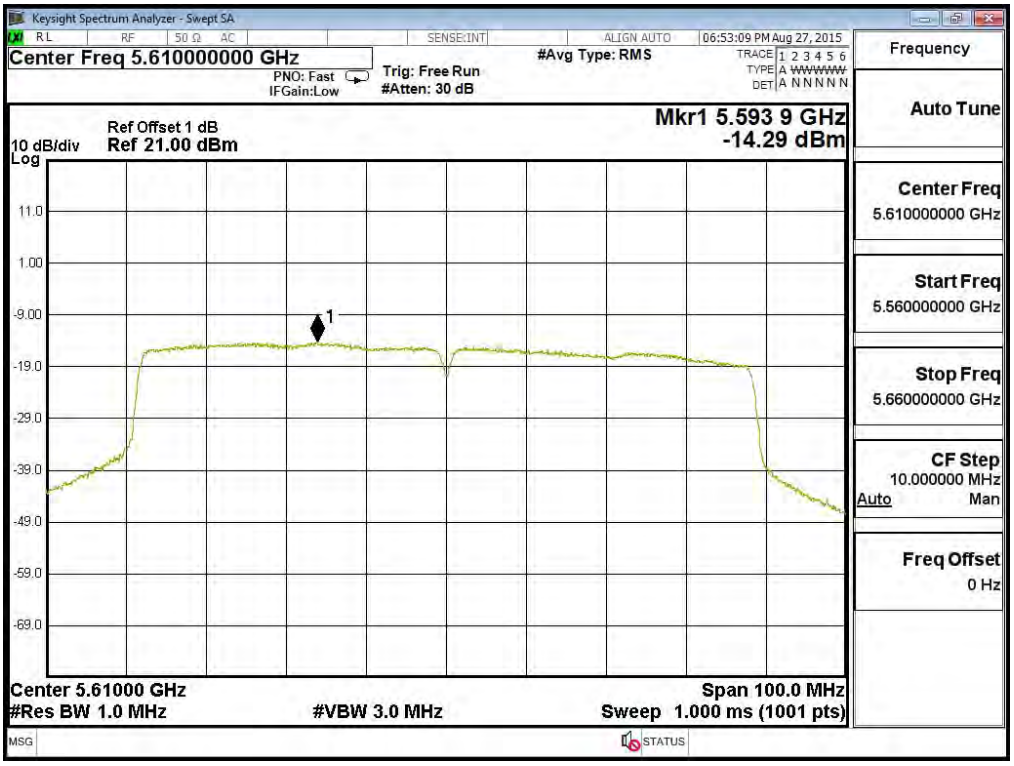
Channel 58: (Chain A)



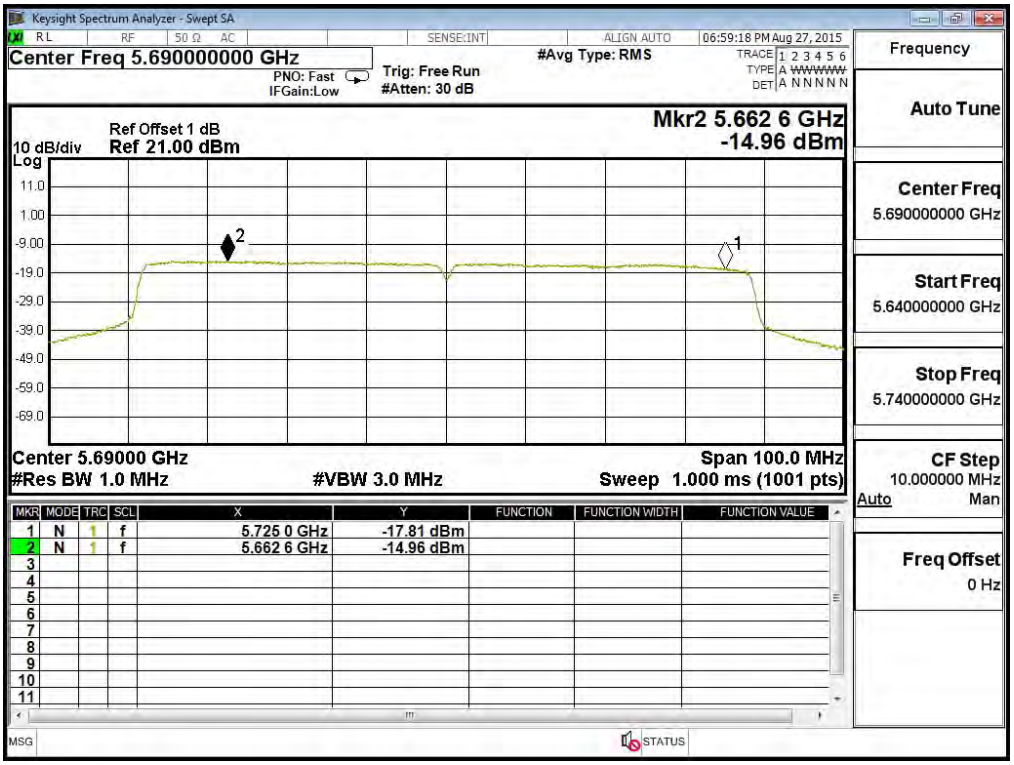
Channel 106: (Chain A)



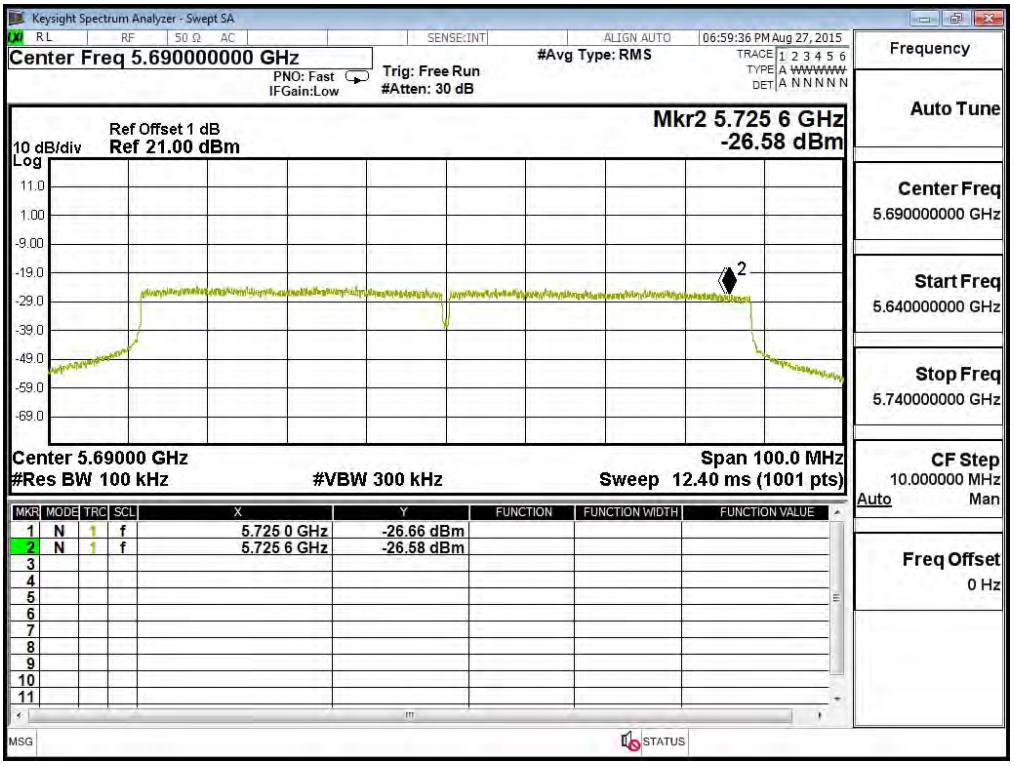
Channel 122: (Chain A)



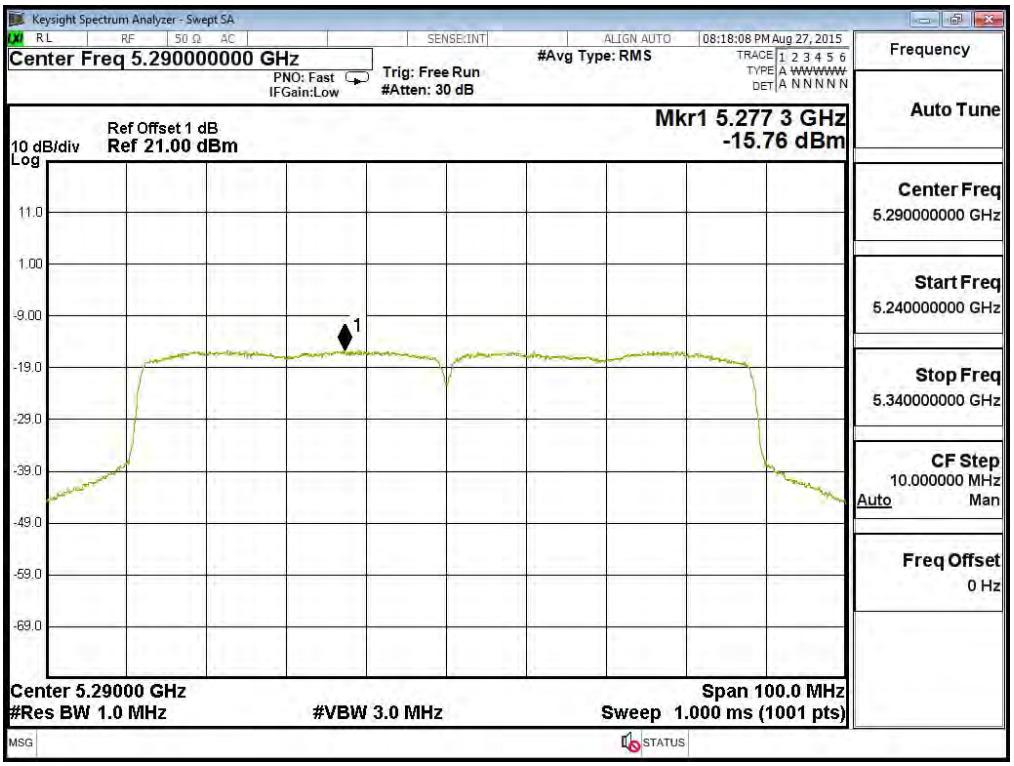
Channel 138 (Band3): (Chain A)



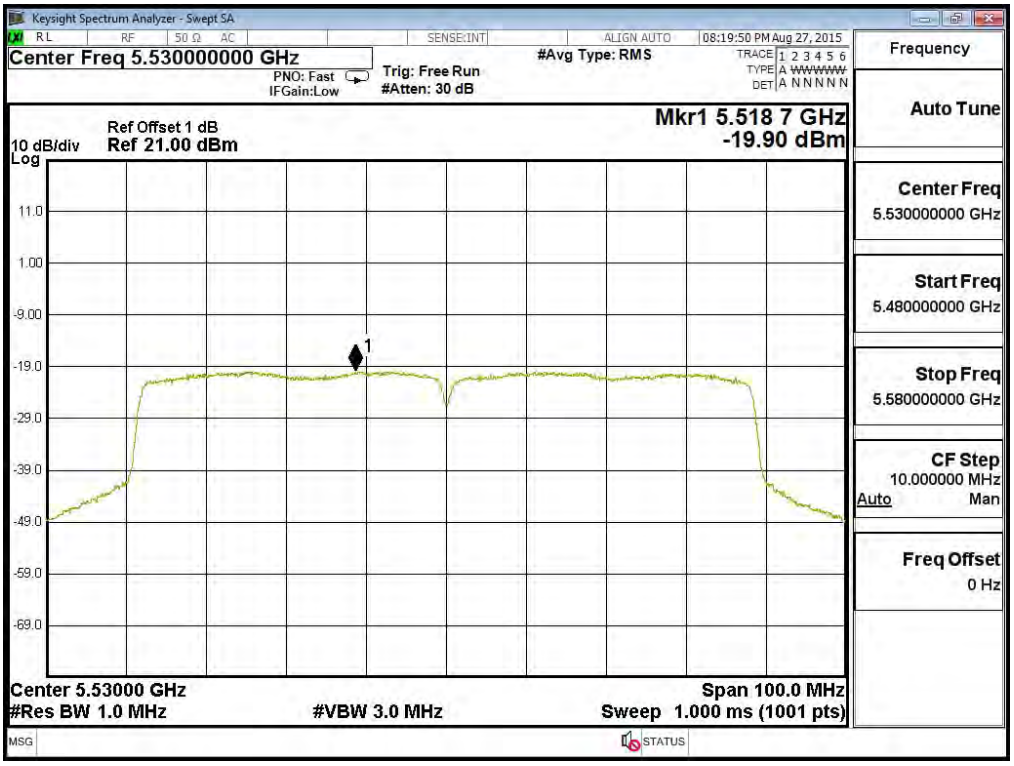
Channel 138 (Band4): (Chain A)



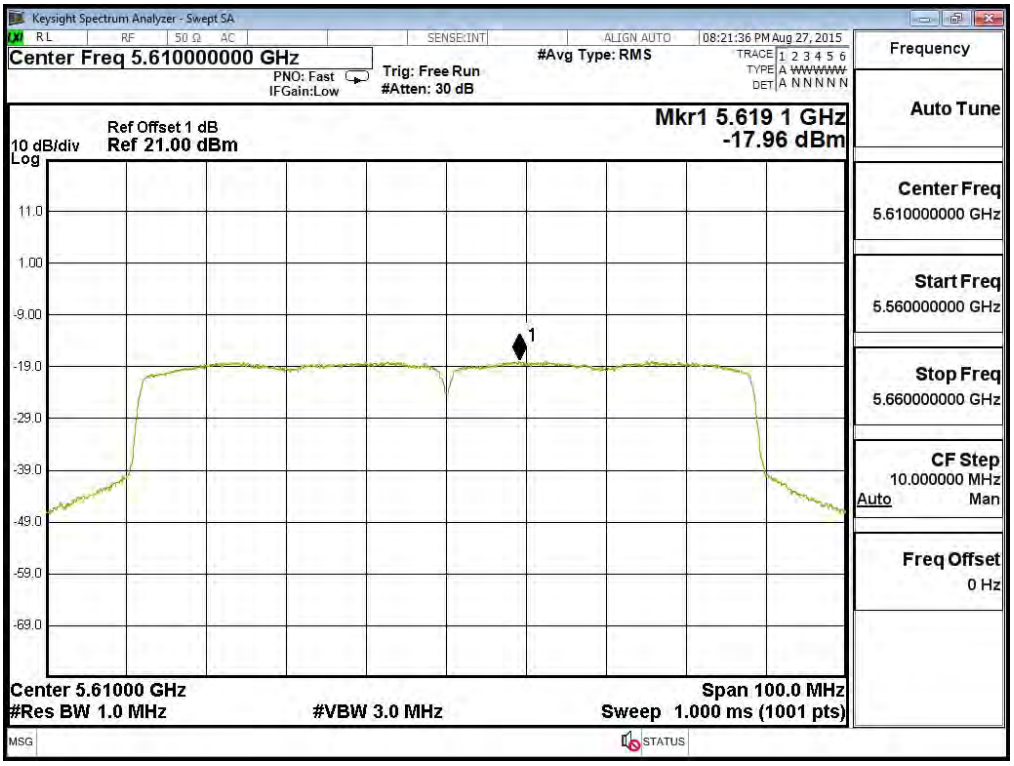
Channel 58: (Chain B)



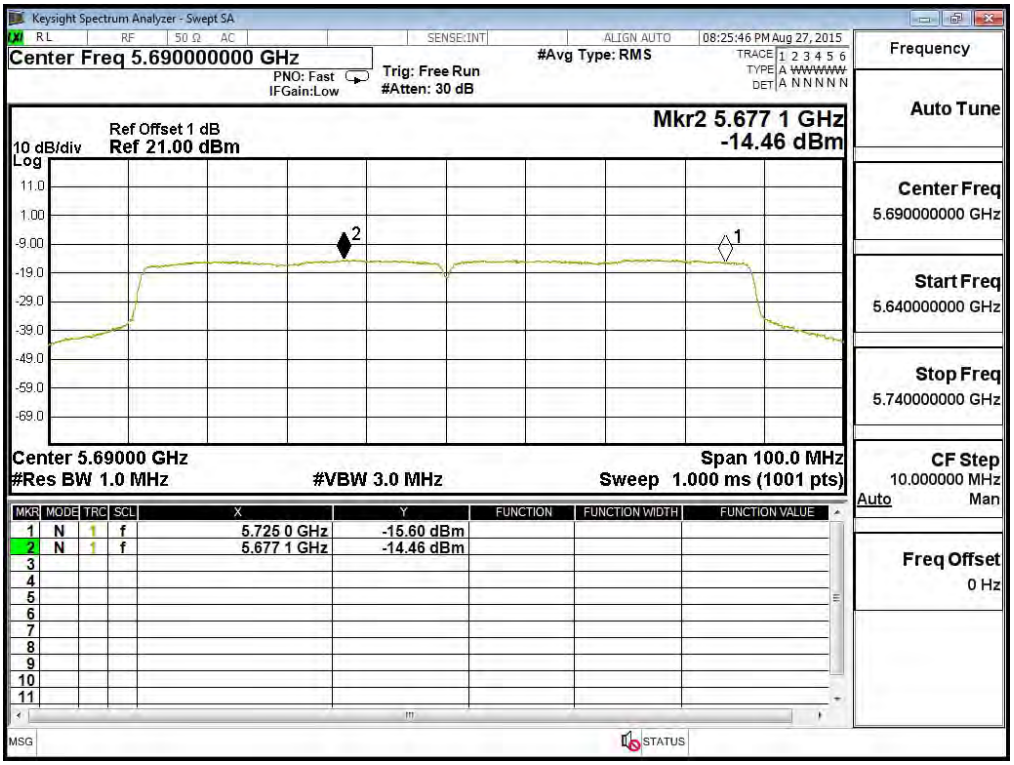
Channel 106: (Chain B)



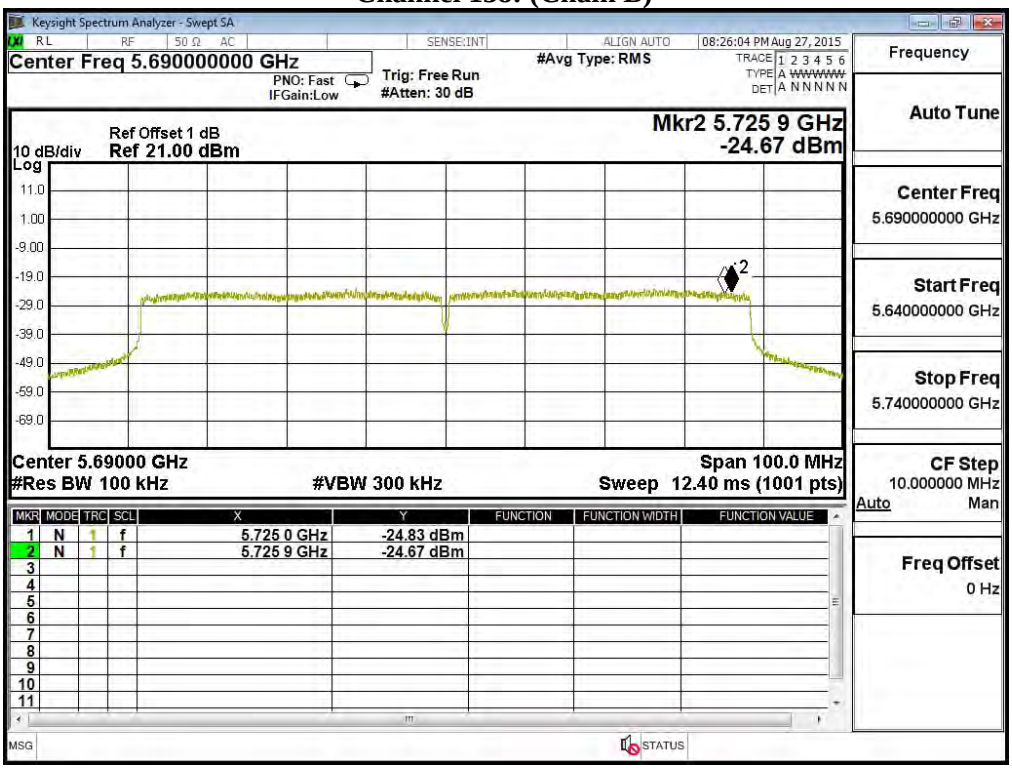
Channel 122: (Chain B)



Channel 138: (Chain B)



Channel 138: (Chain B)



5. Radiated Emission

5.1. Test Equipment

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

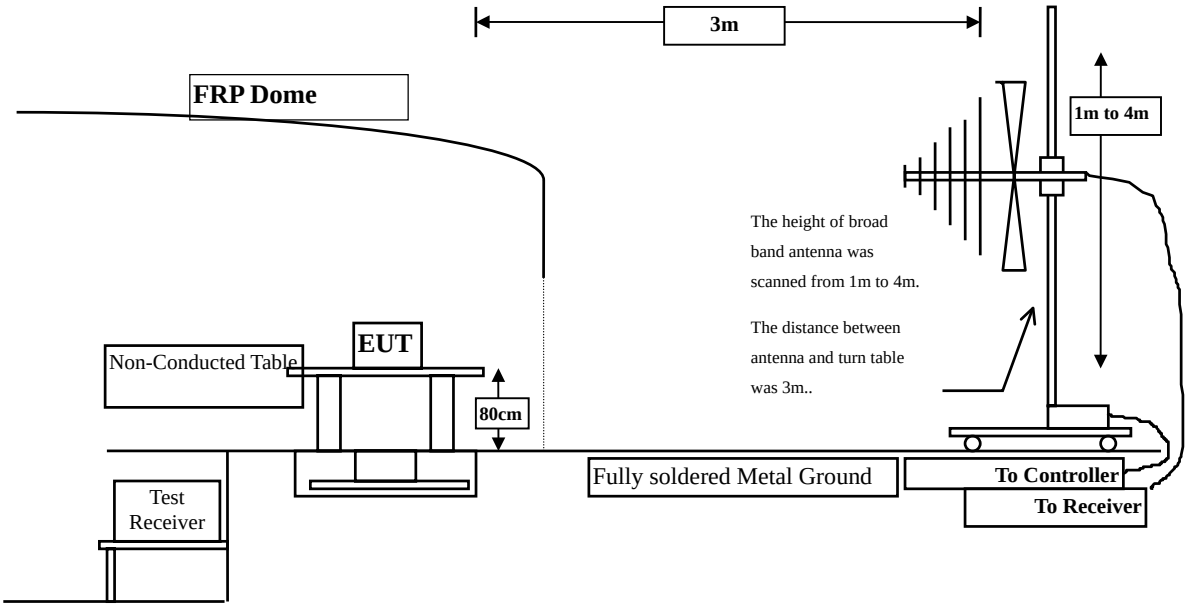
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Loop Antenna	Teseq	HLA6120 / 26739	Jul., 2015
	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2015
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2015
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2015
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2015
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2015
	X	Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P/ 925975	Mar., 2015
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2015
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2015
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2015
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note:

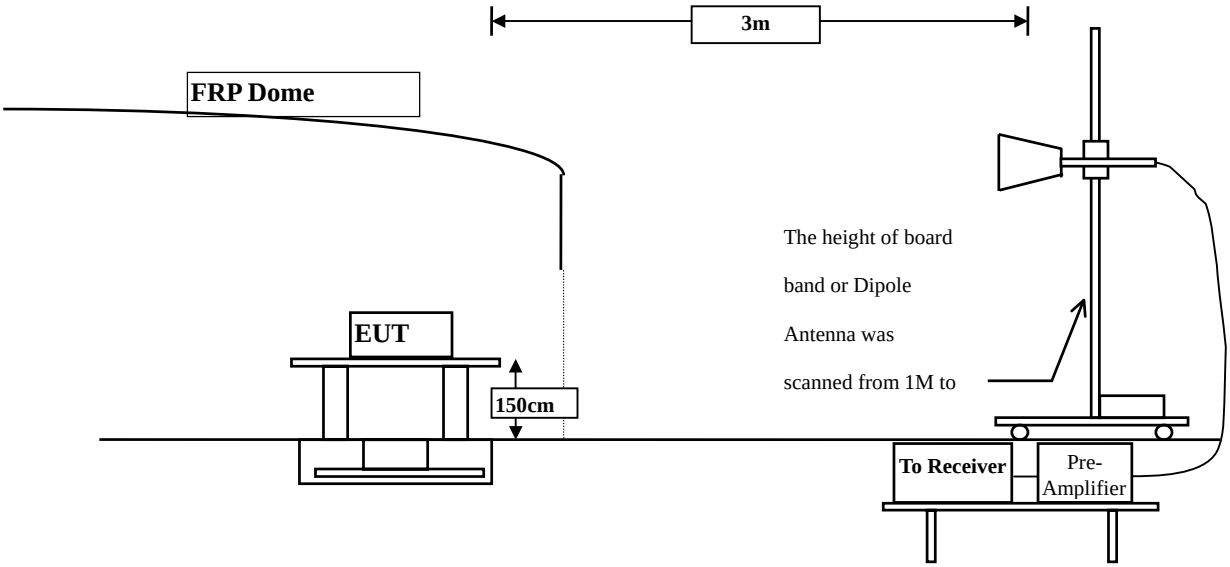
1. All equipment is calibrated once a year or as required by manufacturer.
2. All equipment is calibrated to traceable calibration procedures.
3. The test instruments marked by “X” are used to measure the final test results.

5.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



5.3. 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	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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

5.4. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested according to FCC KDB-789033 test procedure for compliance to FCC 47CFR 15. 407 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground,when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 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 between 1 meter and 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 C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~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 9kHz - 10th Harmonic of fundamental was investigated.

5.5. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

5.6. Test Result of Radiated Emission

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5260MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10520.000	14.015	34.110	48.125	-25.875	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000
Average					
Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10520.000	14.818	39.010	53.828	-20.172	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5300MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10600.000	14.550	35.420	49.969	-24.031	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10600.000	14.881	36.170	51.051	-22.949	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5320MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10640.000	14.690	35.120	49.810	-24.190	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10640.000	15.083	35.780	50.863	-23.137	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5500MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11000.000	16.399	33.990	50.389	-23.611	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11000.000	17.132	34.110	51.242	-22.758	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5580MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11160.000	16.664	39.270	55.935	-18.065	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average Detector:					
11160.000	16.664	23.910	40.575	-13.425	54.000
Vertical					
Peak Detector:					
11160.000	17.643	45.900	63.543	-10.457	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average					
Detector:					
11160.000	17.643	29.730	47.373	-6.627	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (802.11a-6Mbps)(Dipole Antenna) (5700MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11400.000	16.530	34.380	50.911	-23.089	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11400.000	17.138	34.700	51.838	-22.162	74.000
17100.000	*	*	*	*	74.000
22800.000	*	*	*	*	74.000
28500.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) (5260MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10520.000	14.015	34.320	48.335	-25.665	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10520.000	14.818	38.380	53.198	-20.802	74.000
15780.000	*	*	*	*	74.000
21040.000	*	*	*	*	74.000
26300.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) (5300MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10600.000	14.550	35.740	50.289	-23.711	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10600.000	14.881	41.580	56.461	-17.539	74.000
15900.000	*	*	*	*	74.000
21200.000	*	*	*	*	74.000
26500.000	*	*	*	*	74.000
Average Detector:					
10600.000	14.881	25.270	40.151	-13.849	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) (5320MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
10640.000	14.690	35.100	49.790	-24.210	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
10640.000	15.083	35.130	50.213	-23.787	74.000
15960.000	*	*	*	*	74.000
21280.000	*	*	*	*	74.000
26600.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) (5500MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11000.000	16.399	33.700	50.099	-23.901	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	74.000
Average Detector:					
*	*	*	*	*	*
Vertical					
Peak Detector:					
11000.000	17.132	33.700	50.832	-23.168	74.000
16500.000	*	*	*	*	74.000
22000.000	*	*	*	*	74.000
27500.000	*	*	*	*	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.

Product : 802.11 ac PCIe Module
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps)(Dipole Antenna) (5580MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
11160.000	16.664	39.470	56.135	-17.865	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average Detector:					
11160.000	16.664	22.850	39.515	-14.485	54.000
Vertical					
Peak Detector:					
11160.000	17.643	43.970	61.613	-12.387	74.000
16800.000	*	*	*	*	74.000
22400.000	*	*	*	*	74.000
28000.000	*	*	*	*	74.000
Average Detector:					
11160.000	17.643	26.230	43.873	-10.127	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 + Correction Factor.
5. Correction Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.
7. The emission levels of other frequencies are greater then 10db under the limit and not shown in test report.