

4. Peak Power Spectral Density

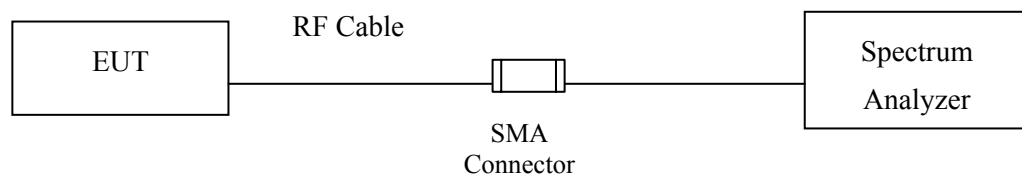
4.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun., 2014
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun., 2014
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2015

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

- (1) For the band 5.15-5.25 GHz,
 - (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
 - (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
 - (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the

equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations. (iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.+

- (2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
- (3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple colocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

4.4. Test Procedure

The EUT was setup to ANSI C63.10, 2009; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

The Peak Power Spectral Density using KDB 789033 section F) procedure, Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer.

SA-1 method is selected to run the test.

For the band 5.725-5.85 GHz, Scale the observed power level to an equivalent value in 500 kHz by adjusting (increase) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500\text{ kHz}/100\text{ kHz}) = 6.98\text{ dB}$.

4.5. Uncertainty

$\pm 1.27\text{ dB}$

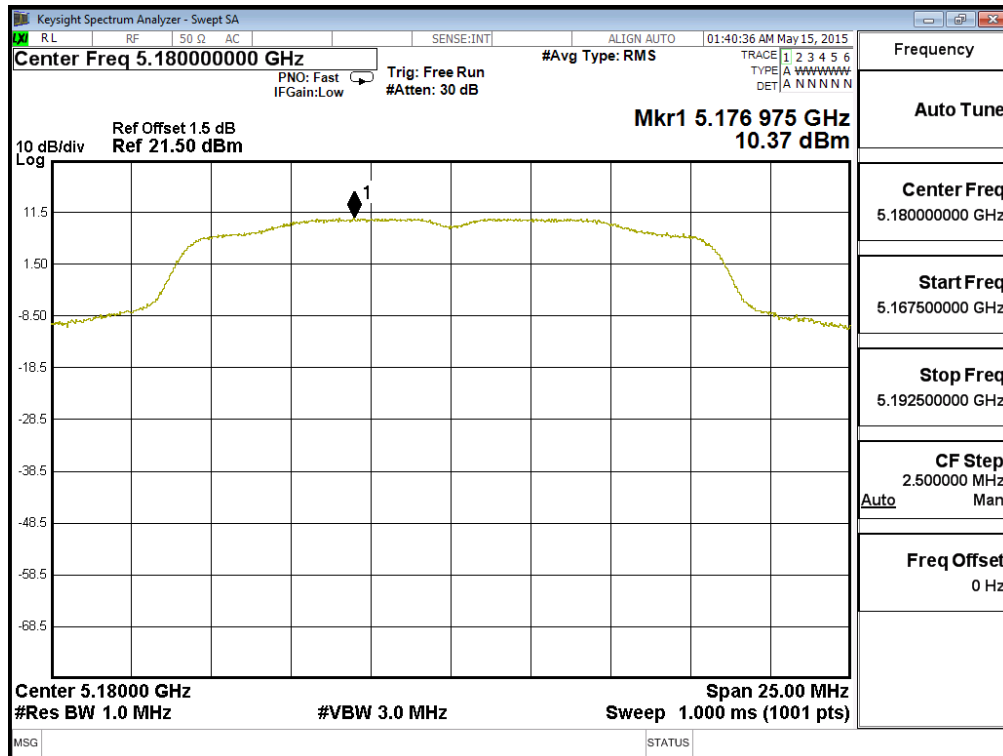
4.6. Test Result of Peak Power Spectral Density

Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 1 SISO A: Transmit (802.11a-6Mbps)

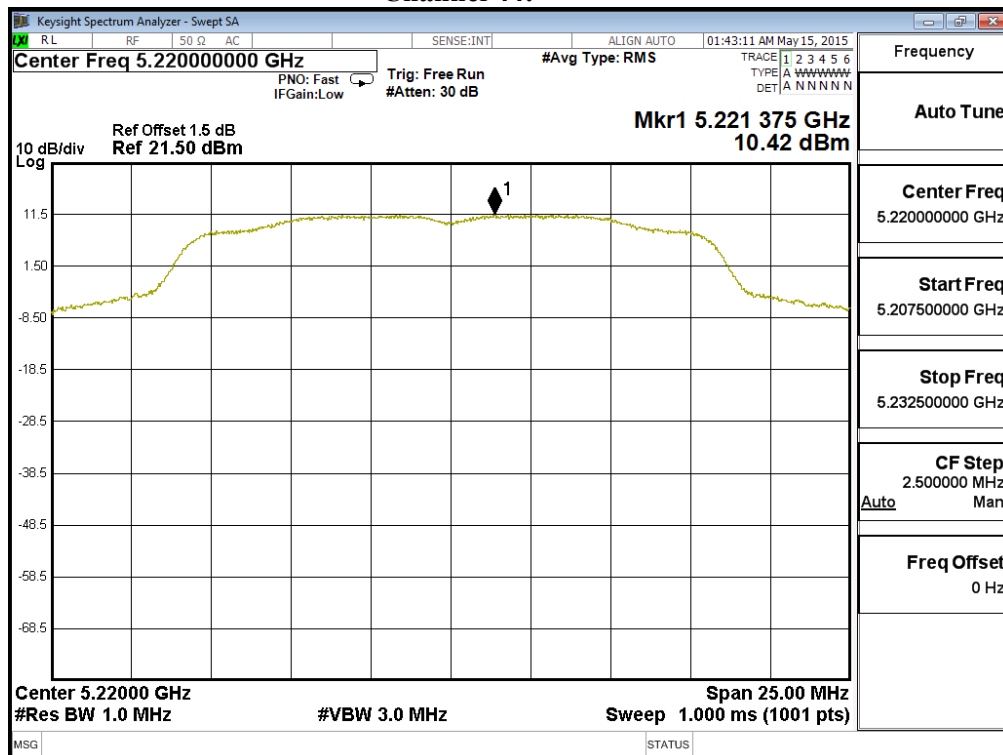
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
36	5180	10.375	0.079	10.454	<11	Pass
44	5220	10.419	0.079	10.498	<11	Pass
48	5240	10.470	0.079	10.549	<11	Pass
52	5260	10.495	0.079	10.574	<11	Pass
60	5300	10.451	0.079	10.530	<11	Pass
64	5320	8.909	0.079	8.988	<11	Pass
100	5500	9.270	0.079	9.349	<11	Pass
116	5580	10.880	0.079	10.959	<11	Pass
140	5700	10.862	0.079	10.941	<11	Pass

Note: Total PPSD = PPSD value + Duty Factor

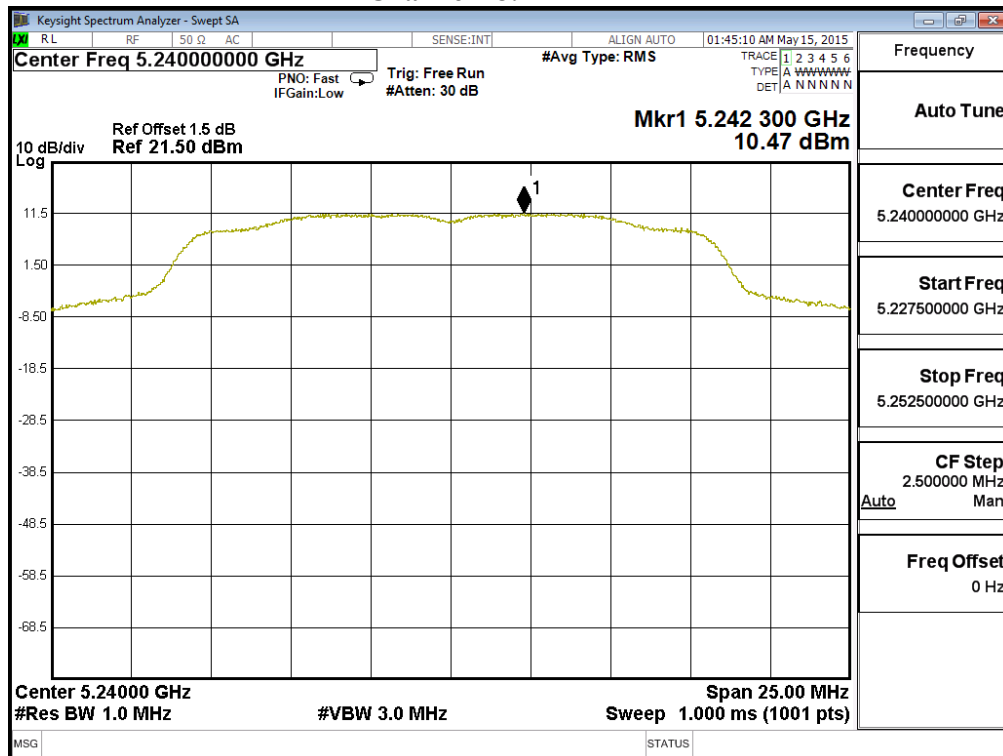
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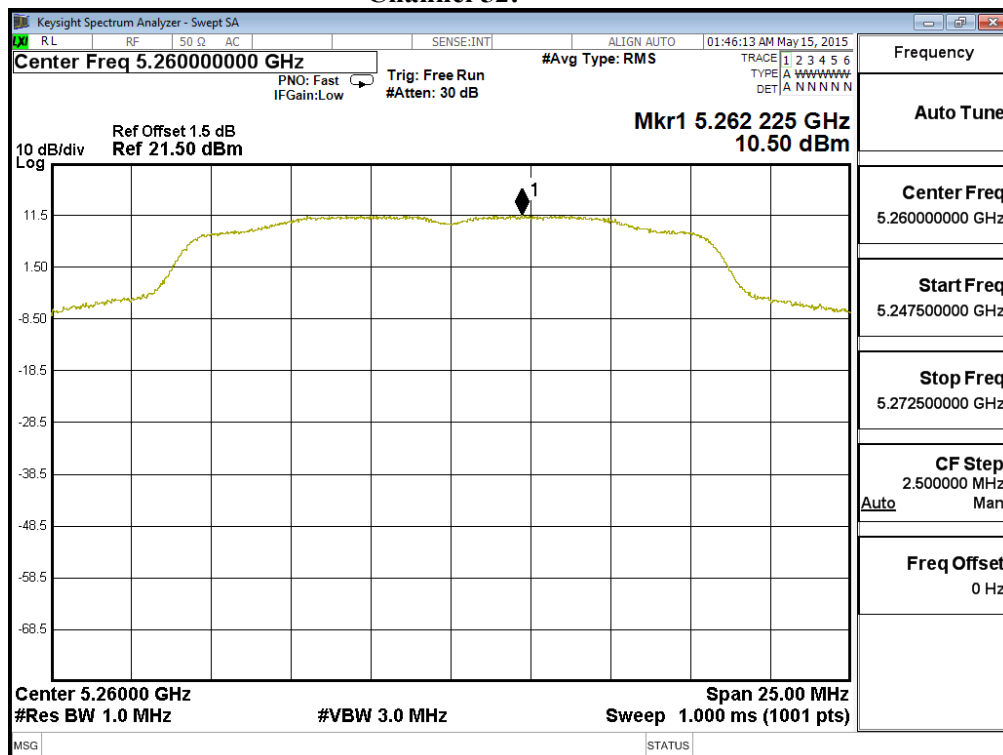
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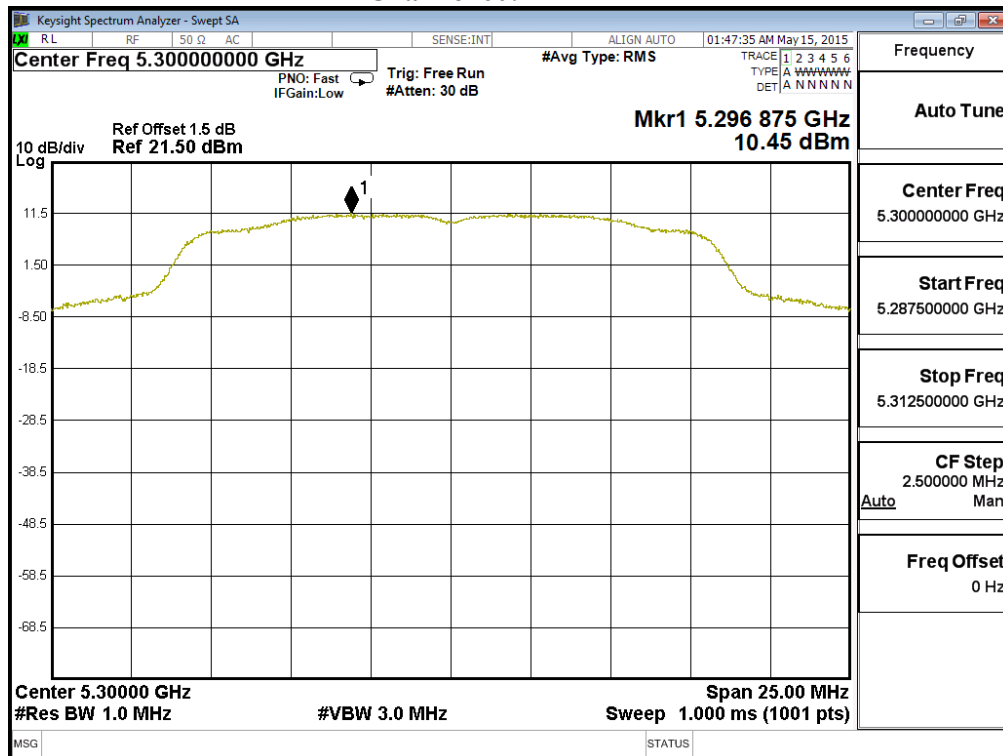
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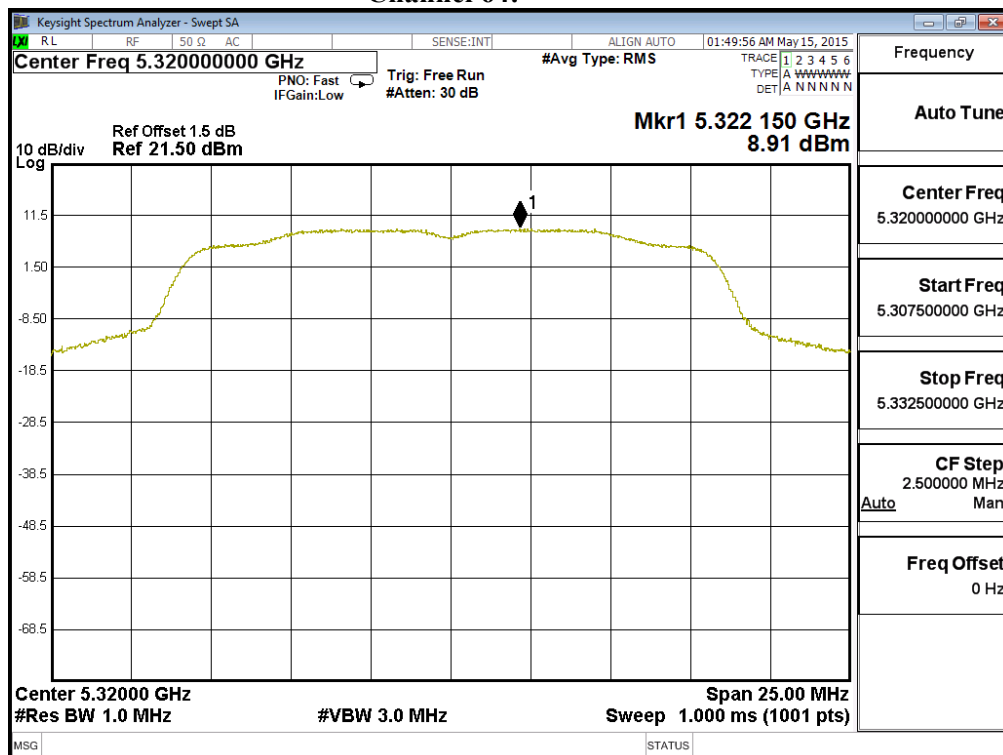
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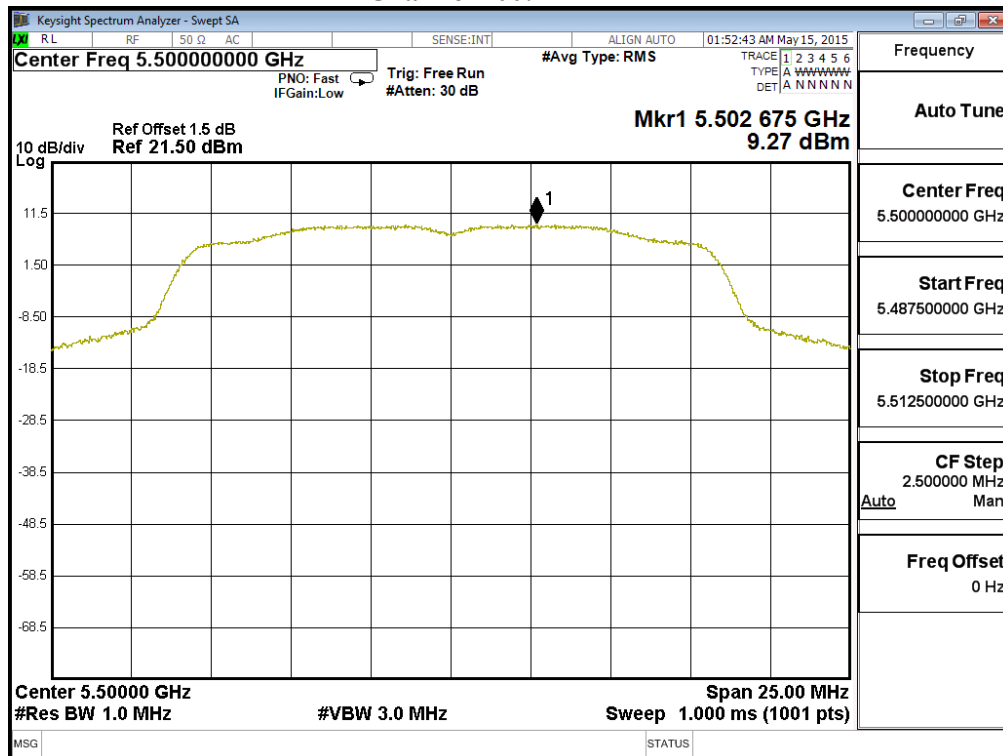
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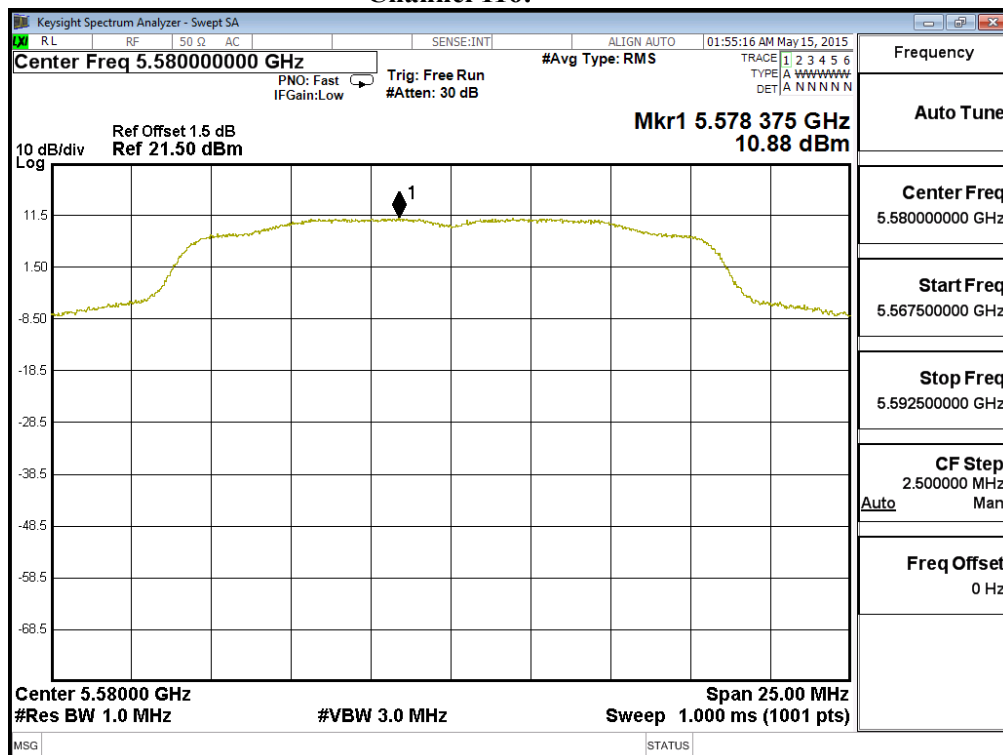
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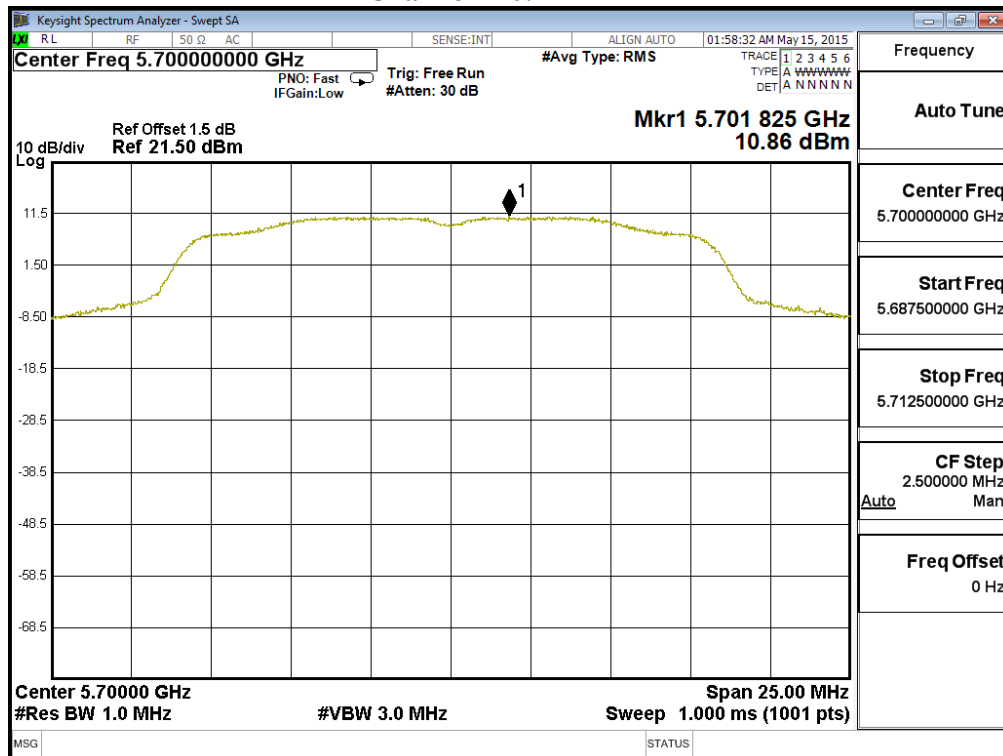
Channel 100:



Channel 116:



Channel 140:

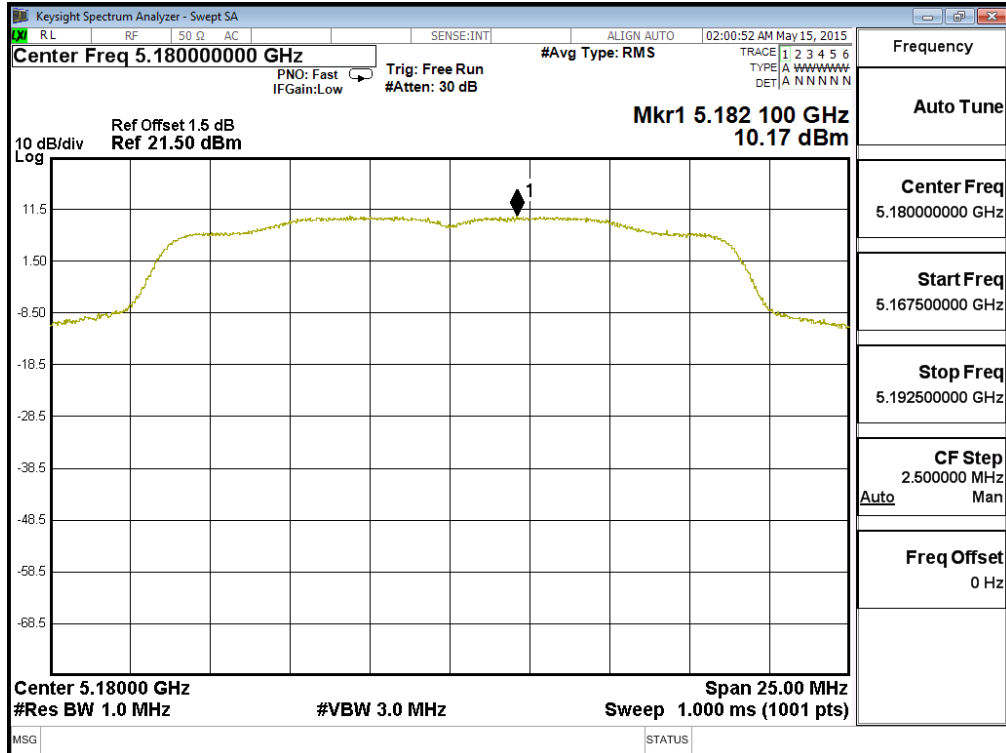


Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 1 SISO A: Transmit (802.11n-20BW 7.2Mbps)

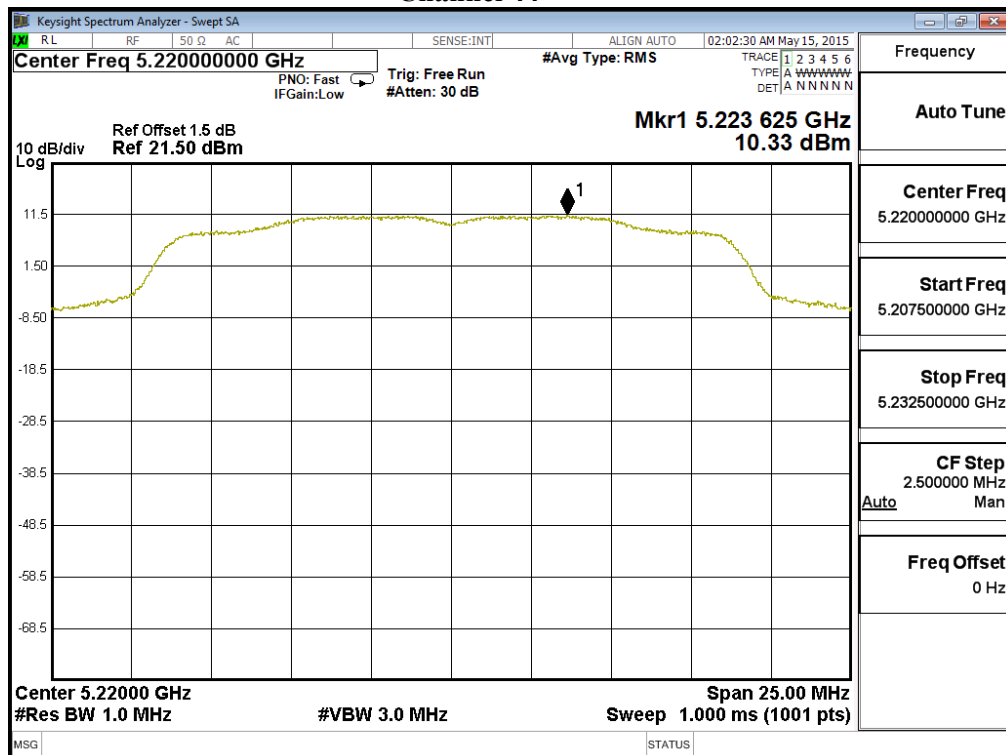
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
36	5180	10.167	0.088	10.255	<11	Pass
44	5220	10.328	0.088	10.416	<11	Pass
48	5240	10.391	0.088	10.479	<11	Pass
52	5260	10.390	0.088	10.478	<11	Pass
60	5300	10.400	0.088	10.488	<11	Pass
64	5320	8.558	0.088	8.646	<11	Pass
100	5500	8.921	0.088	9.009	<11	Pass
116	5580	10.760	0.088	10.848	<11	Pass
140	5700	6.413	0.088	6.501	<11	Pass

Note: Total PPSD = PPSD value + Duty Factor

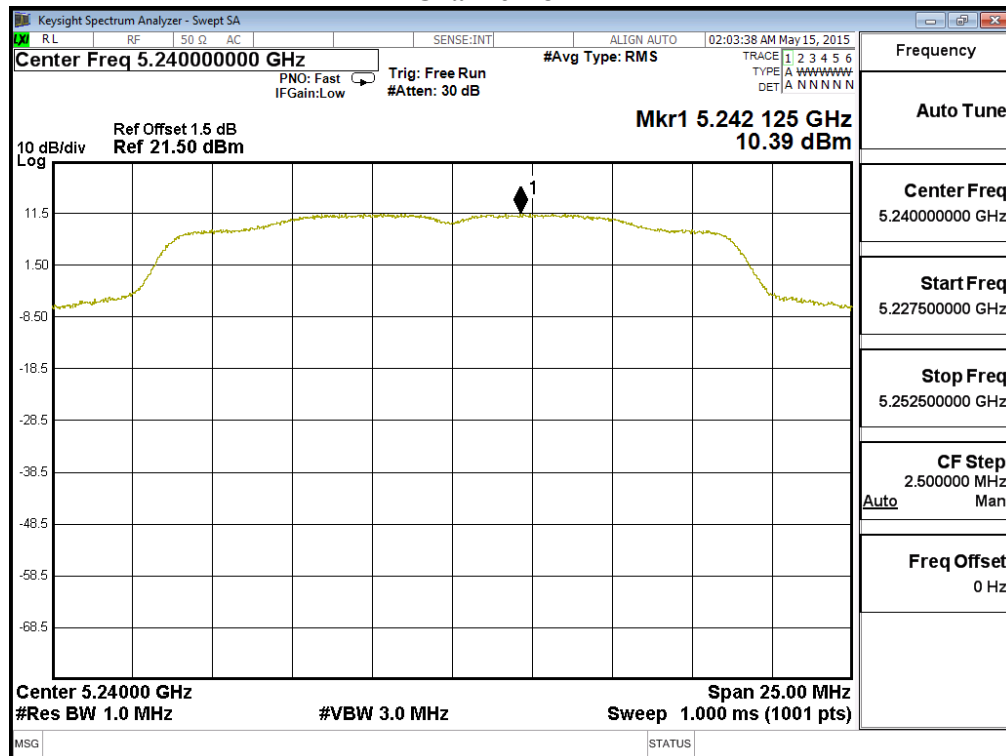
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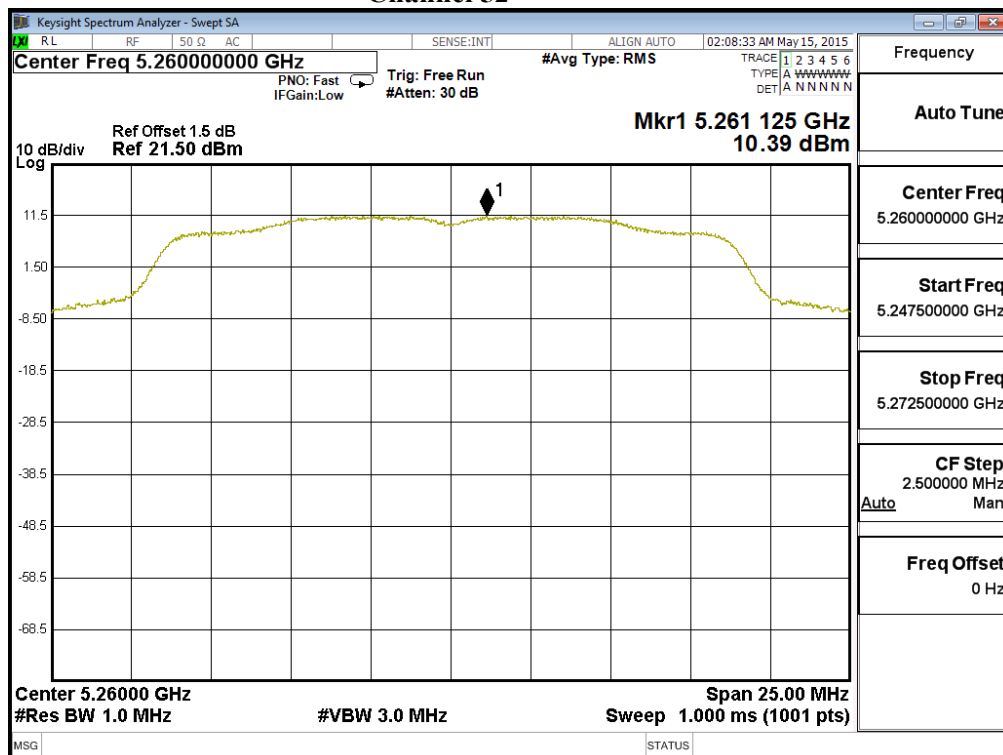
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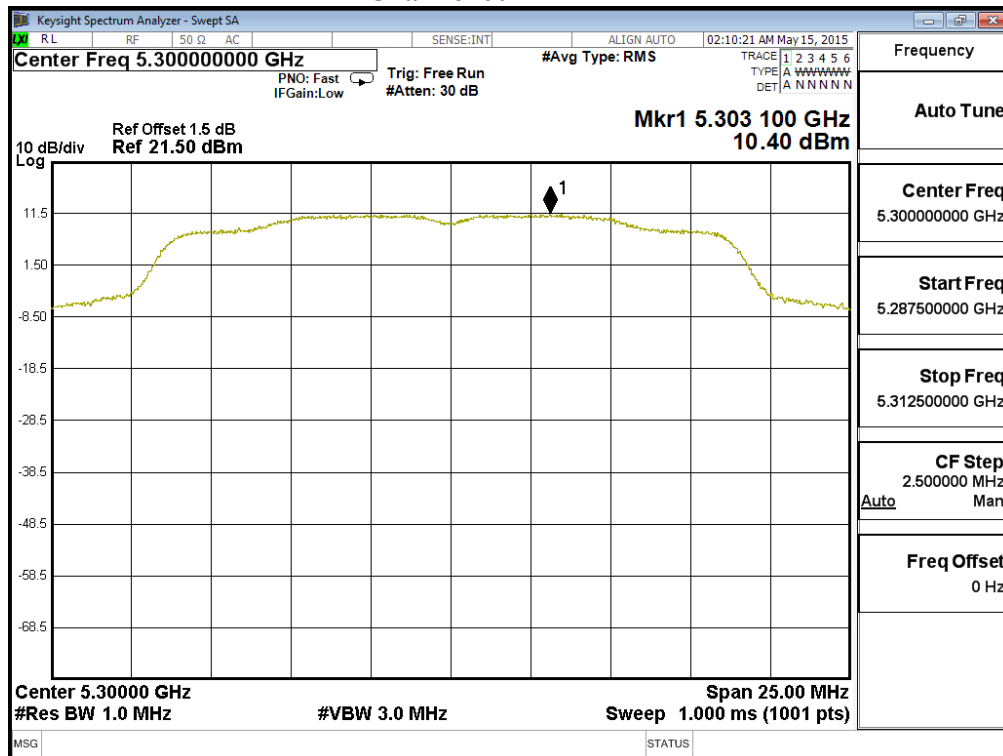
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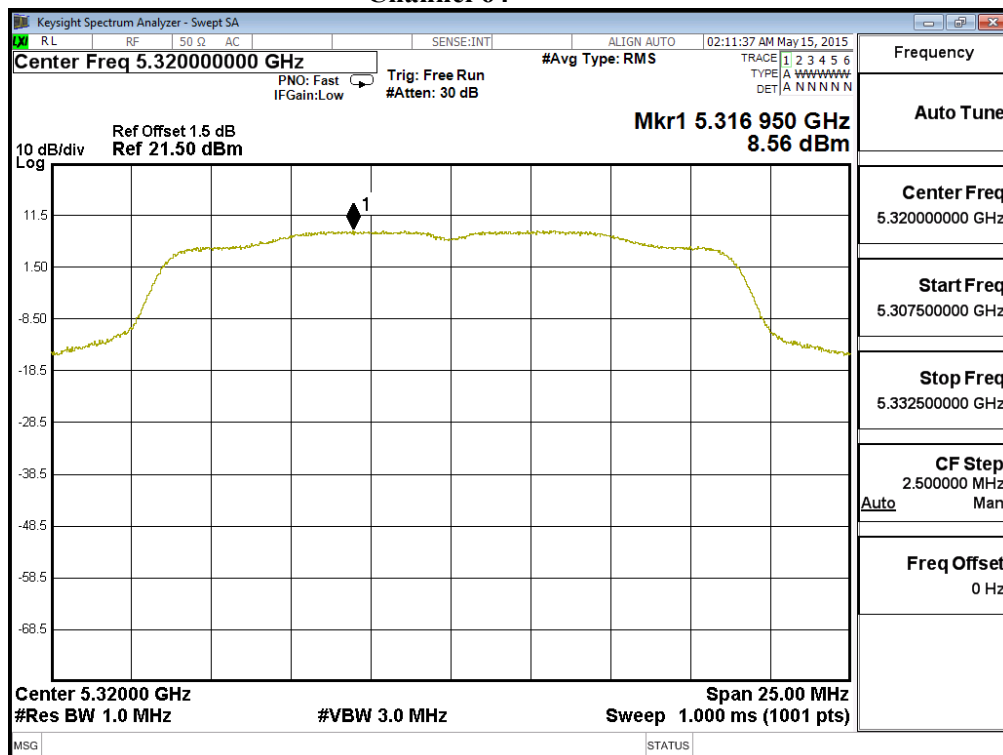
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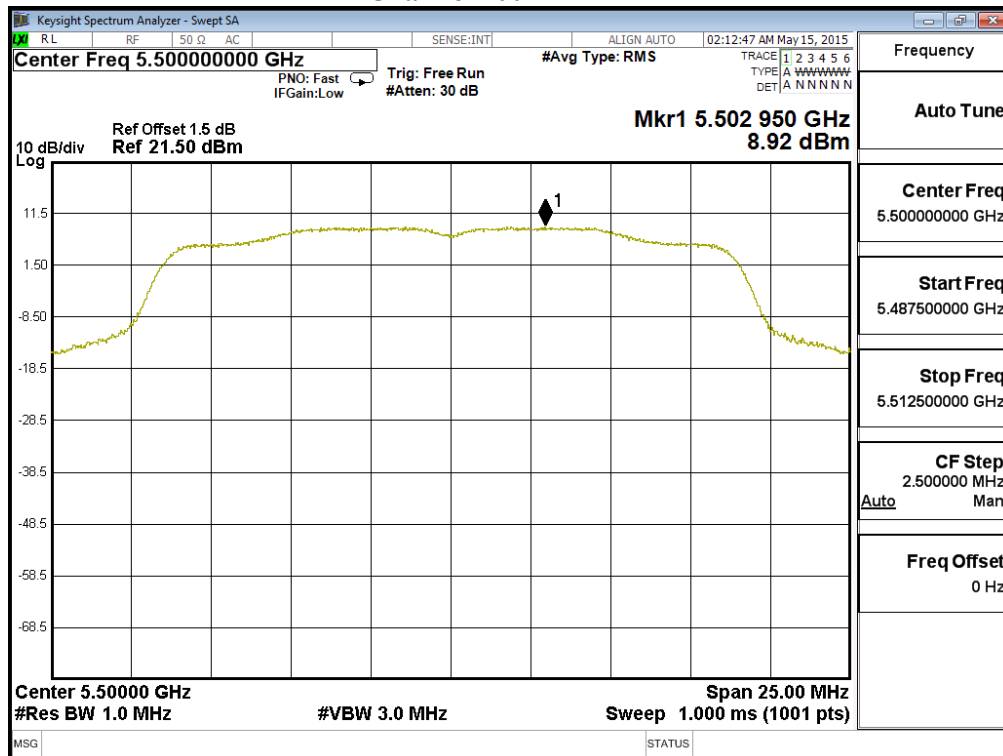
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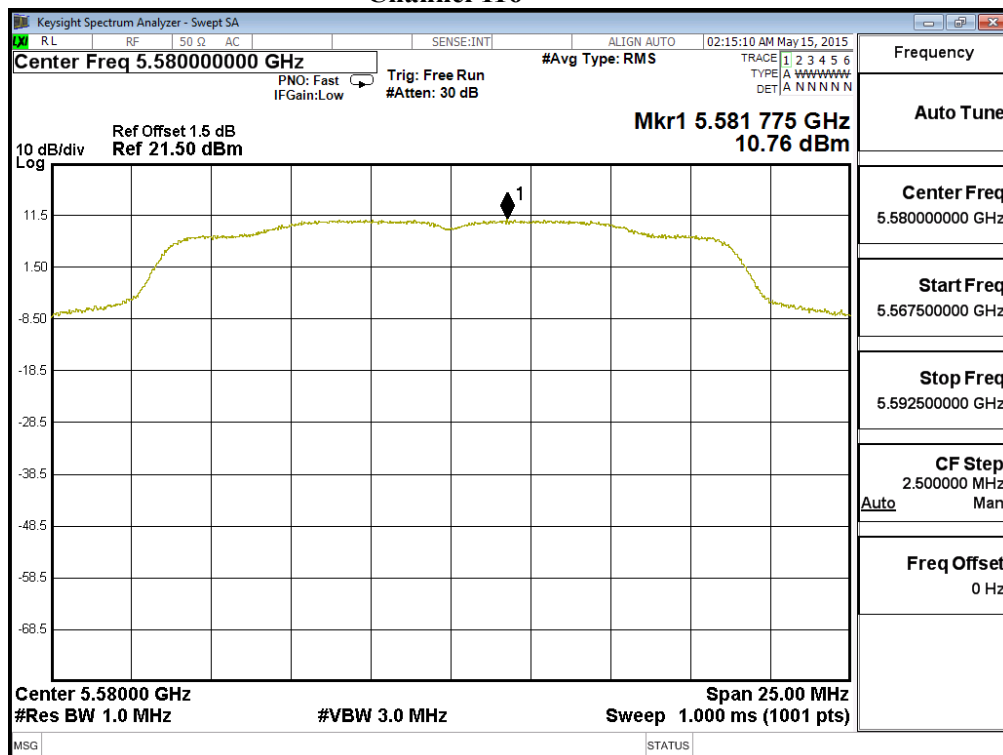
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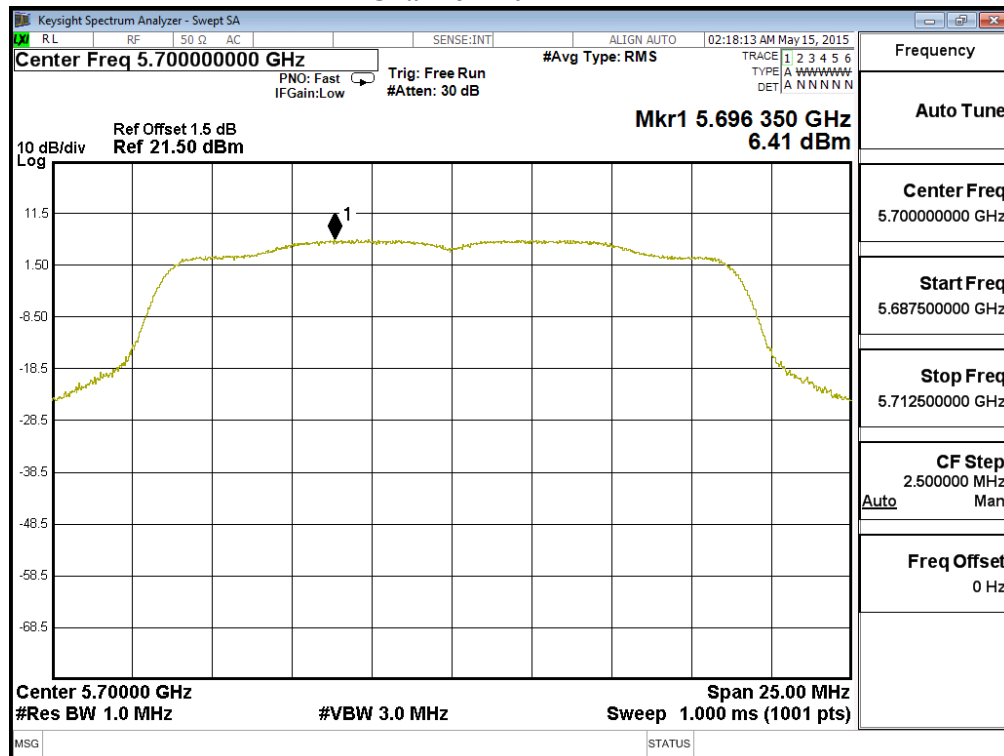
Channel 100



Channel 116



Channel 140

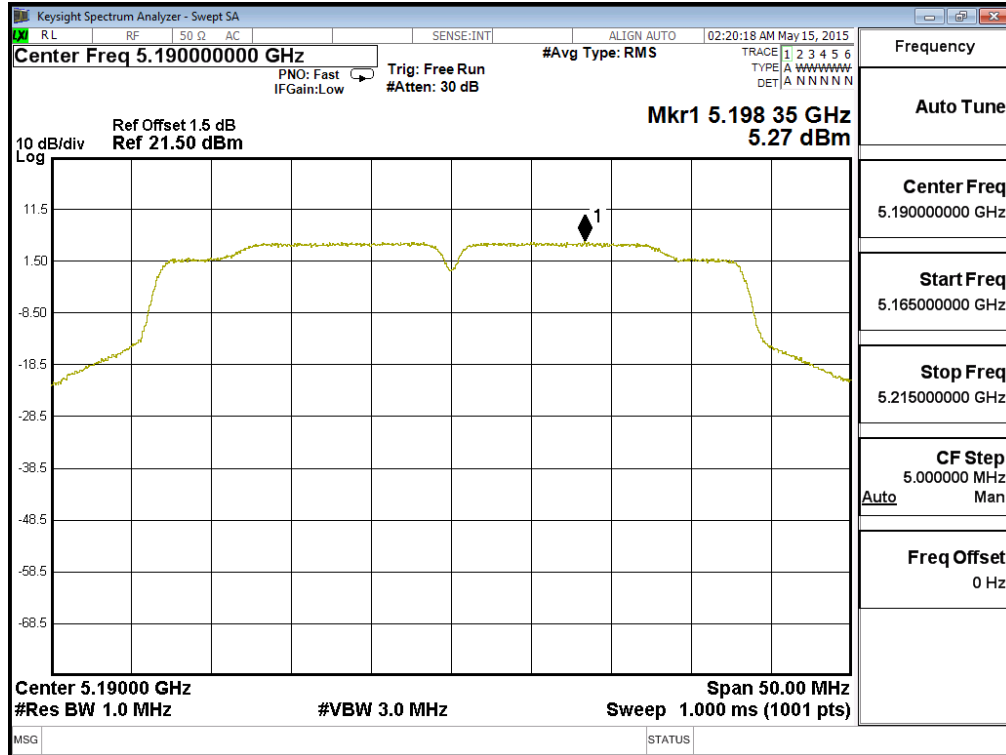


Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 1 SISO A: Transmit (802.11n-40BW 15Mbps)

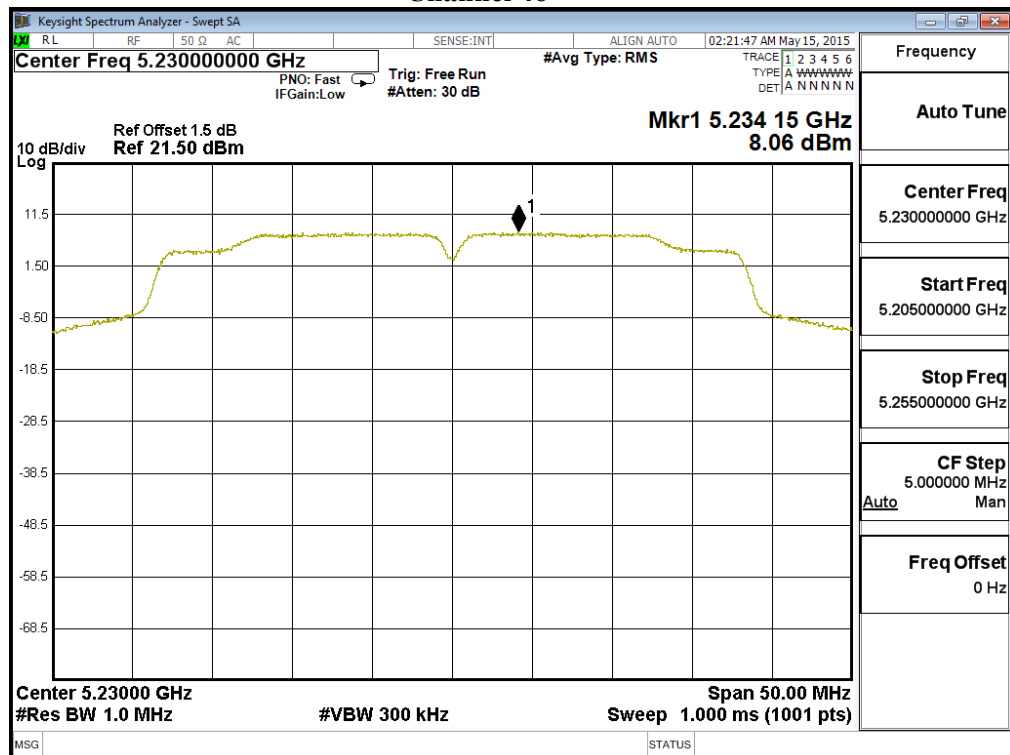
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
38	5190	5.266	0.150	5.416	<11	Pass
46	5230	8.062	0.150	8.212	<11	Pass
54	5270	7.204	0.150	7.354	<11	Pass
62	5310	3.088	0.150	3.238	<11	Pass
102	5510	2.514	0.150	2.664	<11	Pass
110	5550	7.790	0.150	7.940	<11	Pass
134	5670	6.844	0.150	6.994	<11	Pass

Note: Total PPSD = PPSD value + Duty Factor

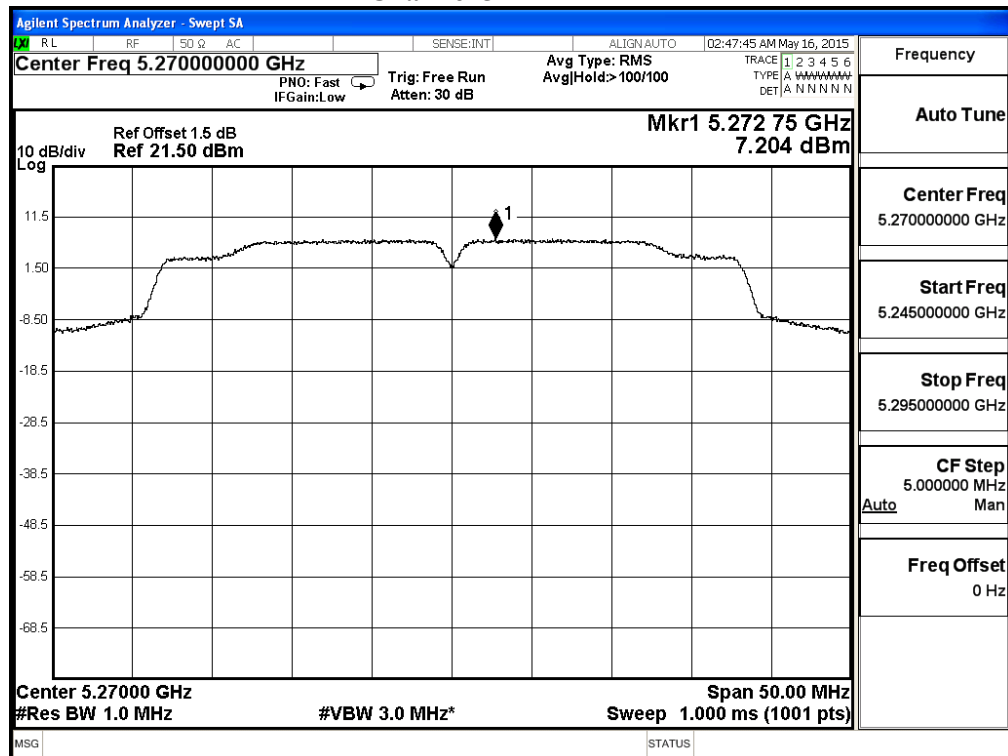
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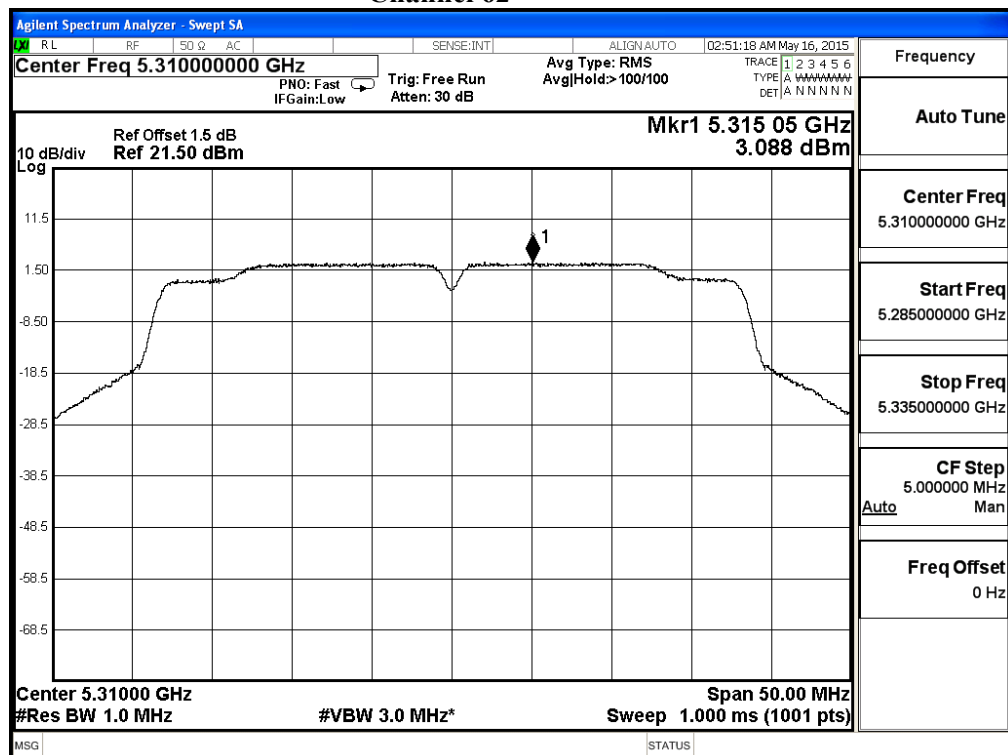
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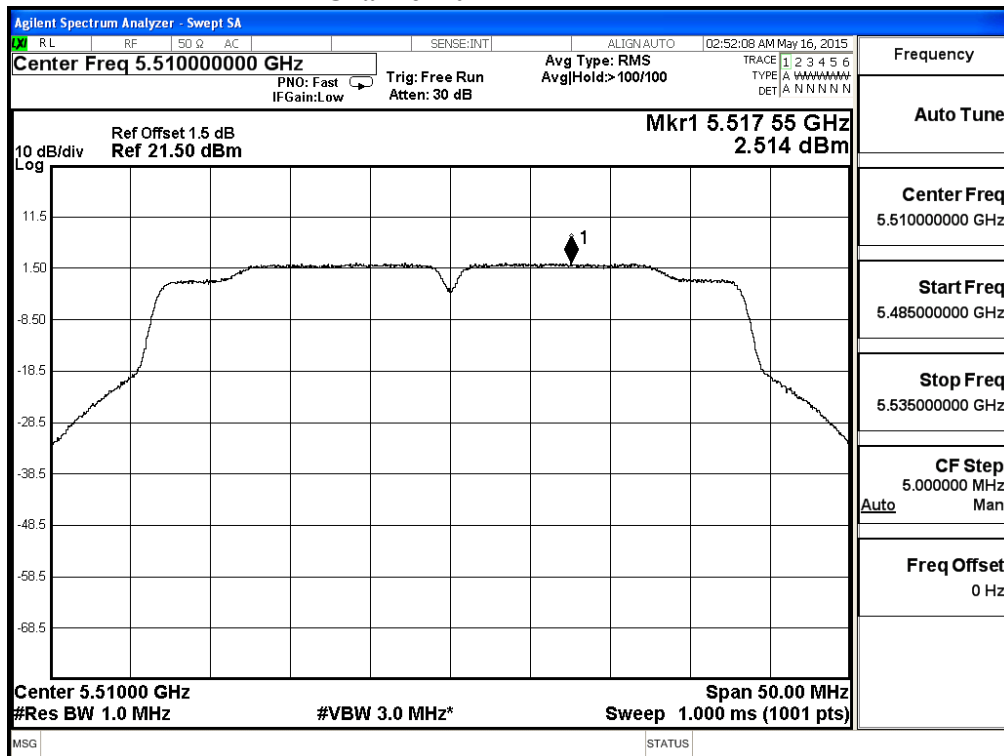
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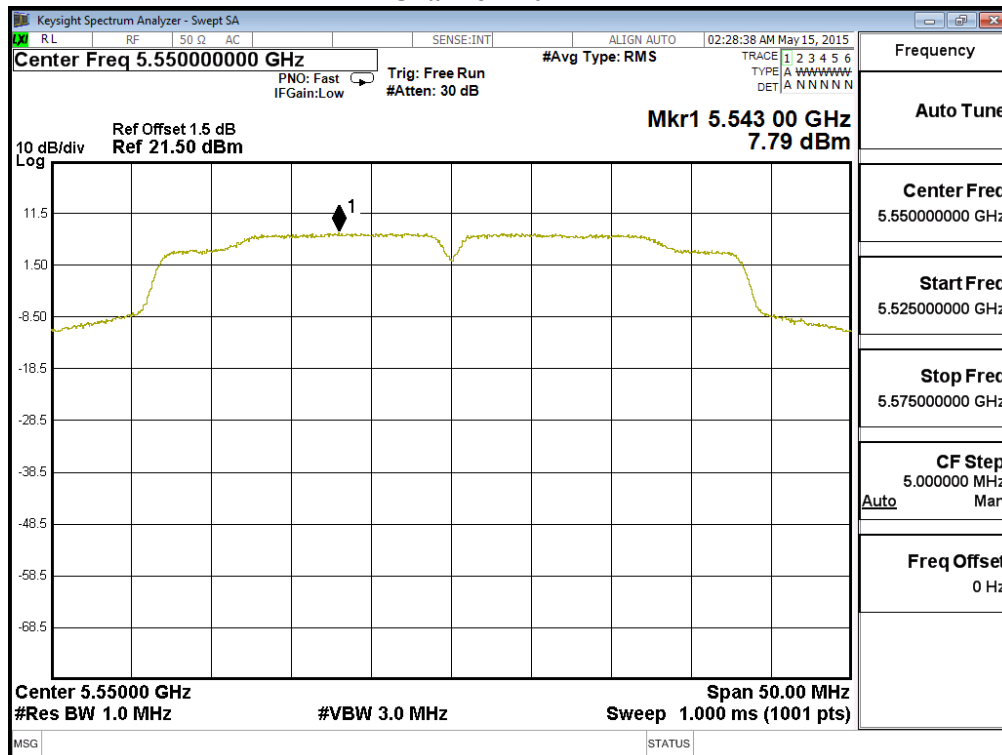
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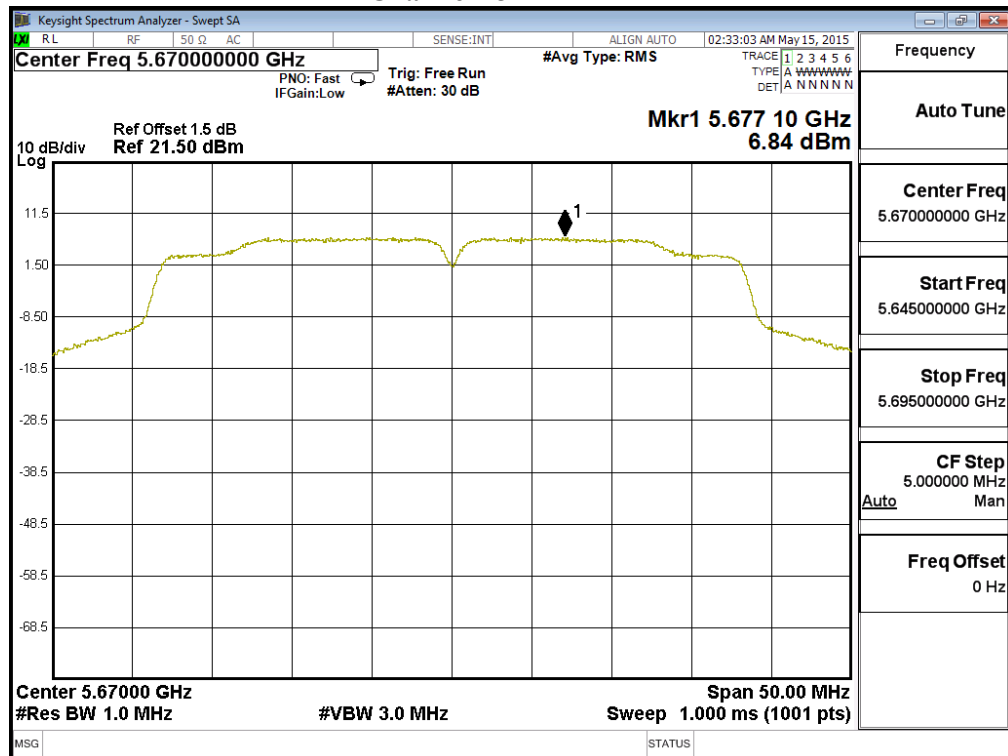
Channel 102



Channel 110



Channel 134

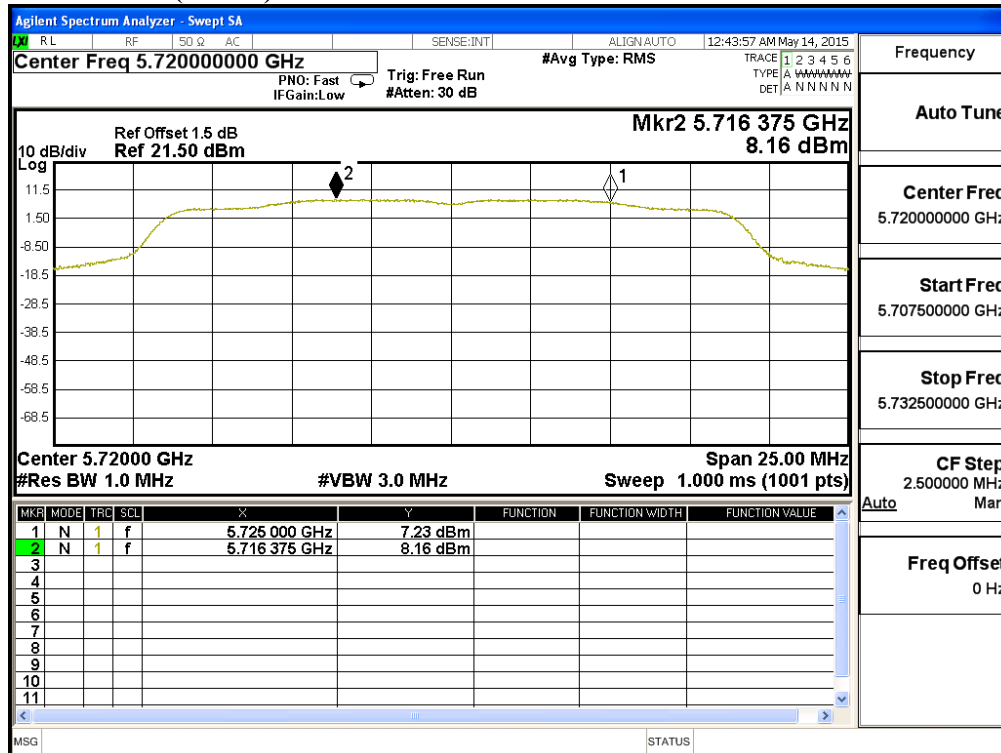


Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 1 SISO A: Transmit (802.11ac-20BW-7.2Mbps)

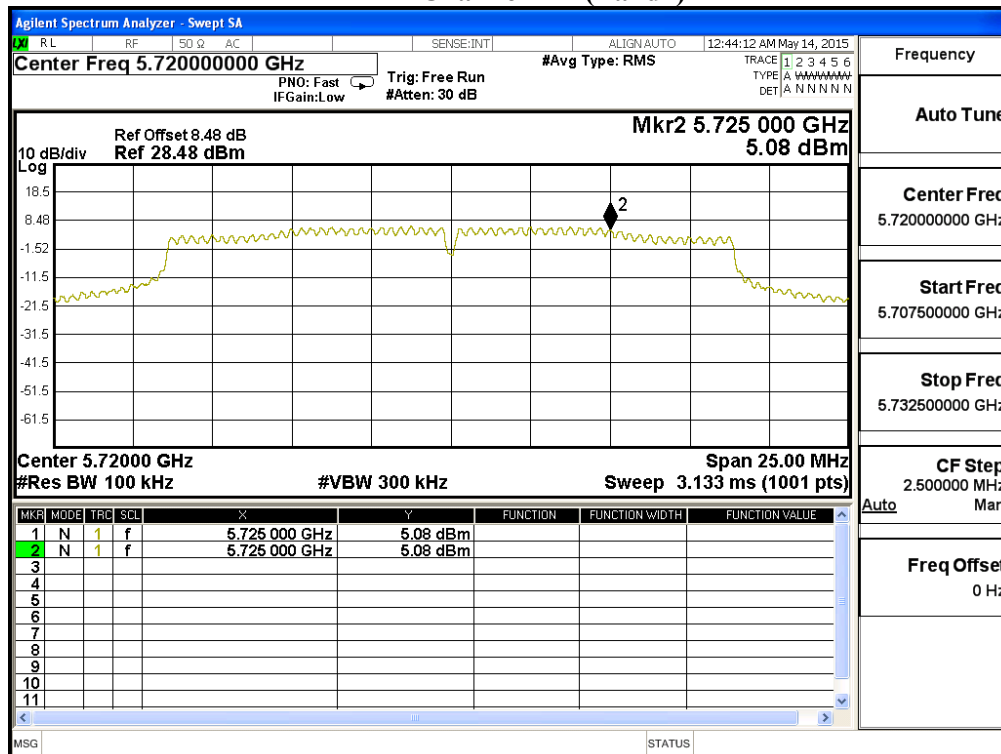
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
144	5720(Band3)	8.160	0.11	8.270	<11	Pass
144	5720(Band4)	5.080	0.11	5.190	<30	Pass

Note: Total PPSD = PPSD value + Duty Factor

Channel 144 (Band3)



Channel 144 (Band4)

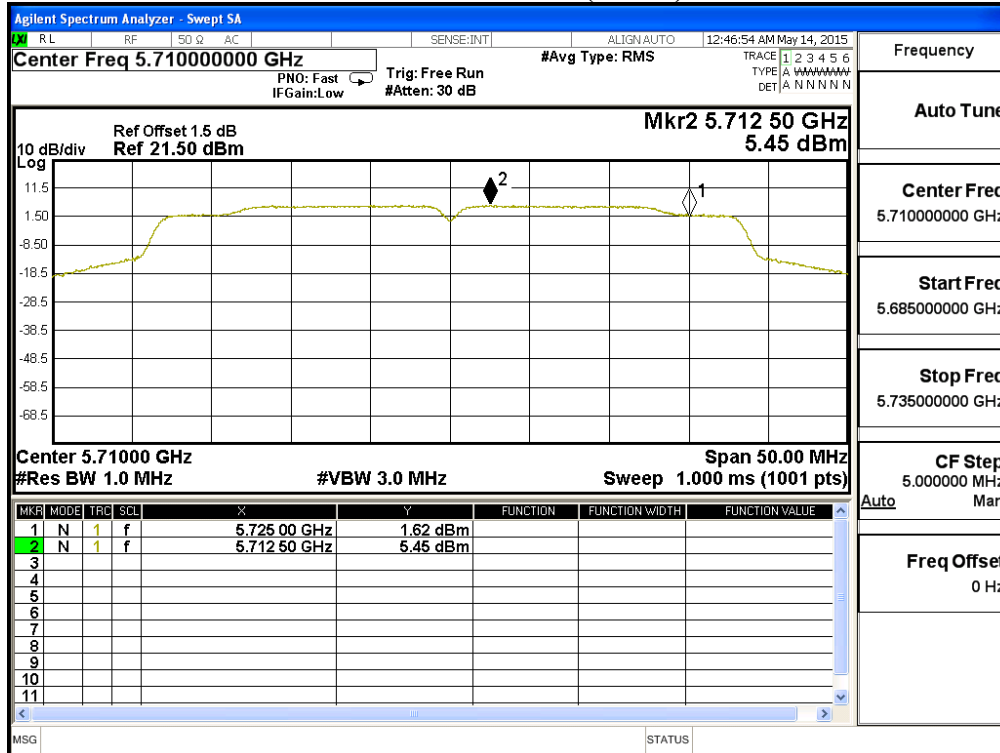


Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 1 SISO A: Transmit (802.11ac-40BW-15Mbps)

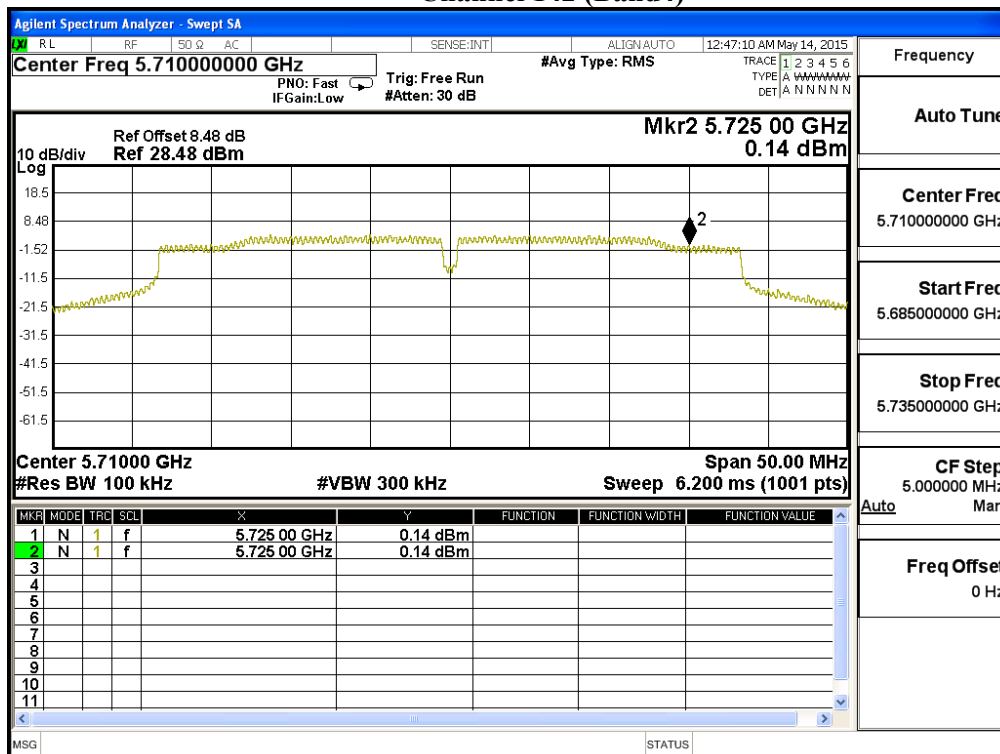
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
142	5710(Band3)	5.450	0.315	5.765	<11	Pass
142	5710(Band4)	0.140	0.315	0.455	<30	Pass

Note: Total PPSD = PPSD value + Duty Factor

Channel 142 (Band3)



Channel 142 (Band4)



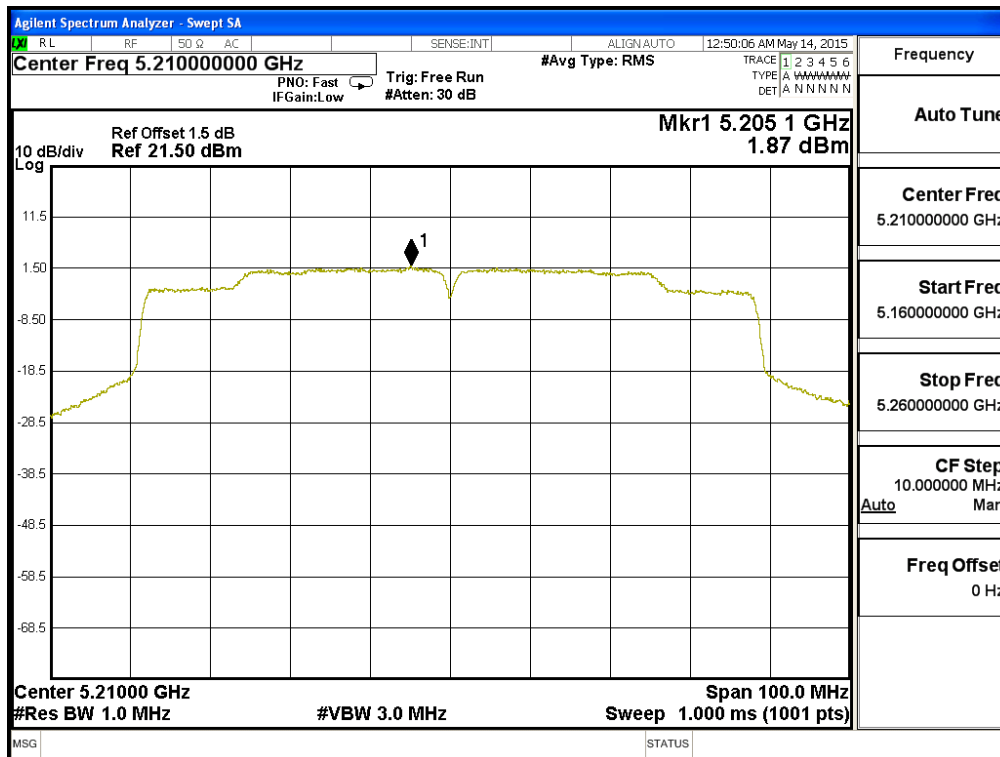
Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 1 SISO A: Transmit (802.11ac-80BW-32.5Mbps)

Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
42	5210	1.870	0.283	4.700	<11	Pass
58	5290	-0.320	0.283	2.510	<11	Pass
106	5530	-1.250	0.283	1.580	<11	Pass
122	5610	1.010	0.283	3.840	<11	Pass
138	5690(Band3)	1.590	0.283	4.420	<11	Pass
138	5690(Band4)	-4.490	0.283	5.32*	<30	Pass

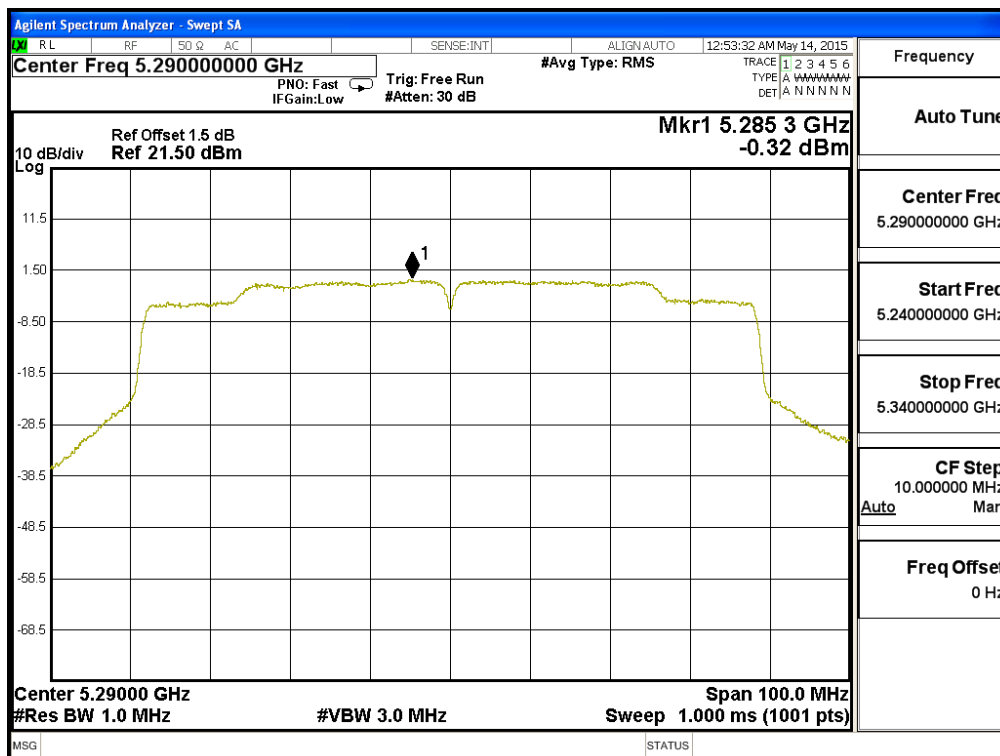
Note: Total PPSD = PPSD value + Duty Factor

* Total PPSD = PPSD value + Duty Factor+6.98dB

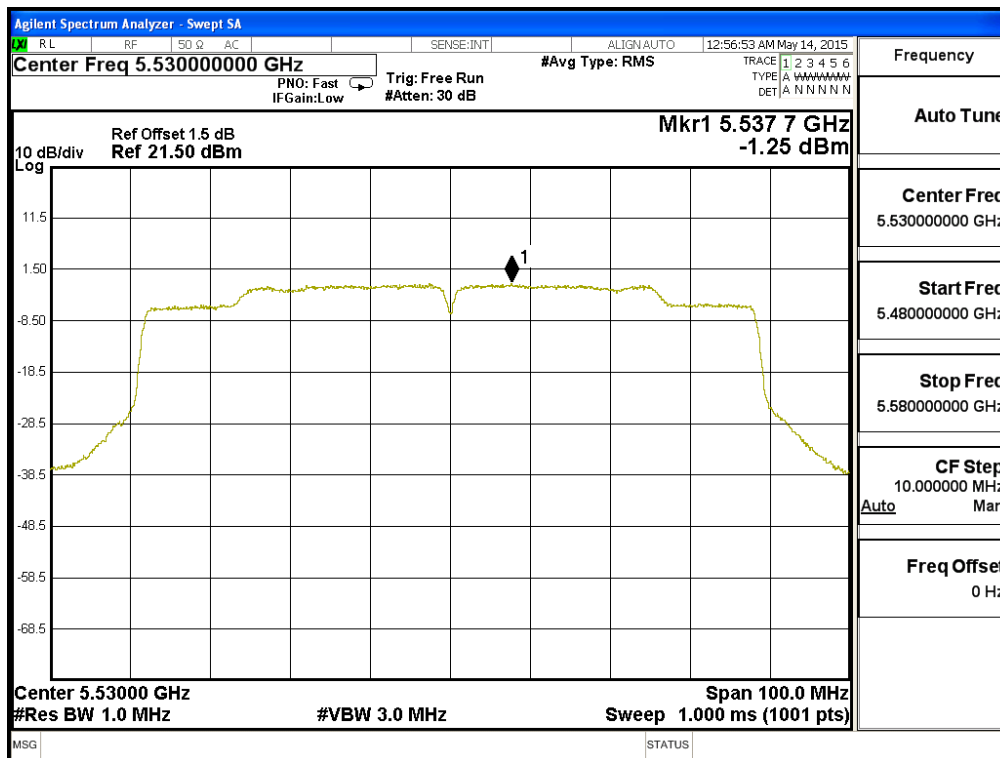
Channel 42



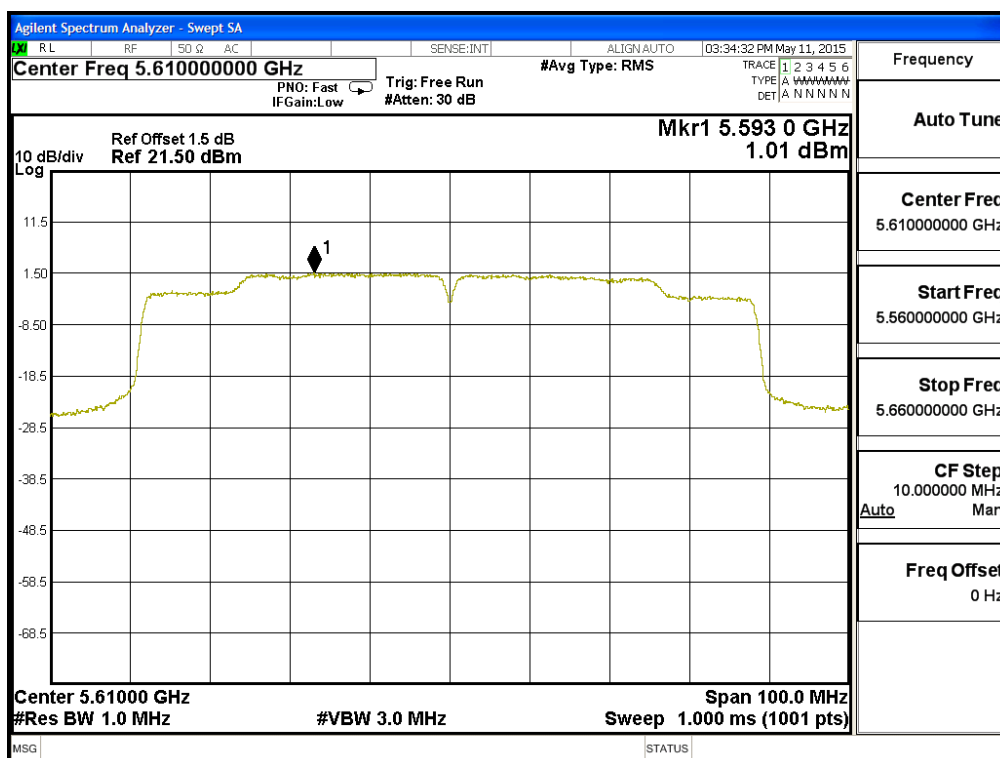
Channel 58



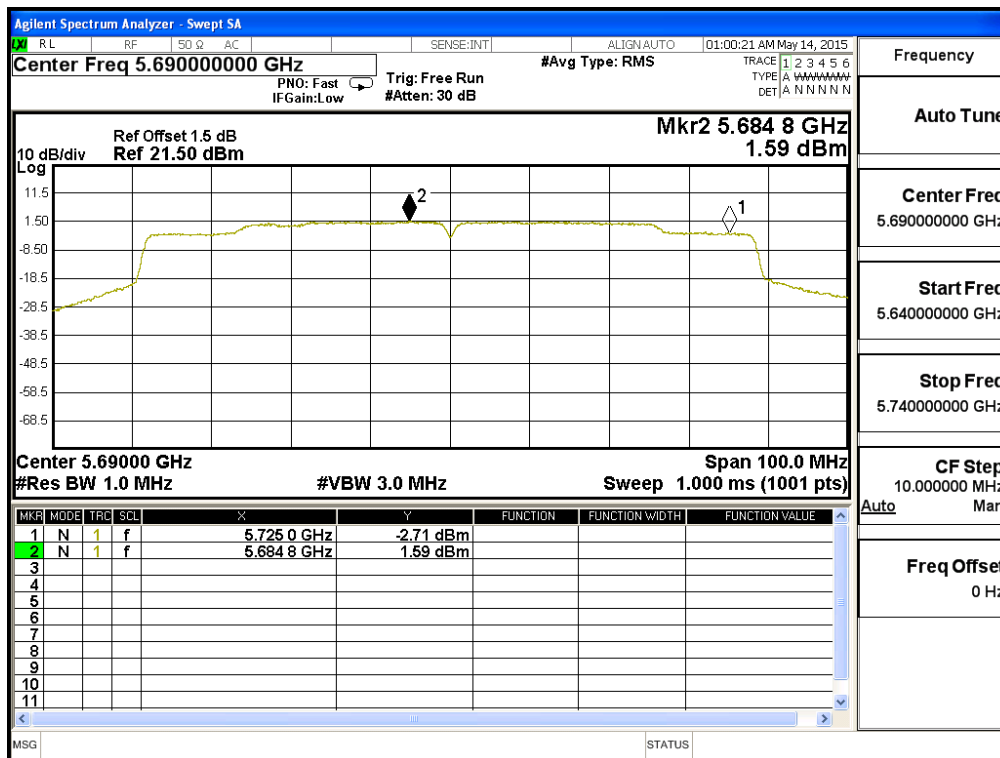
Channel 106



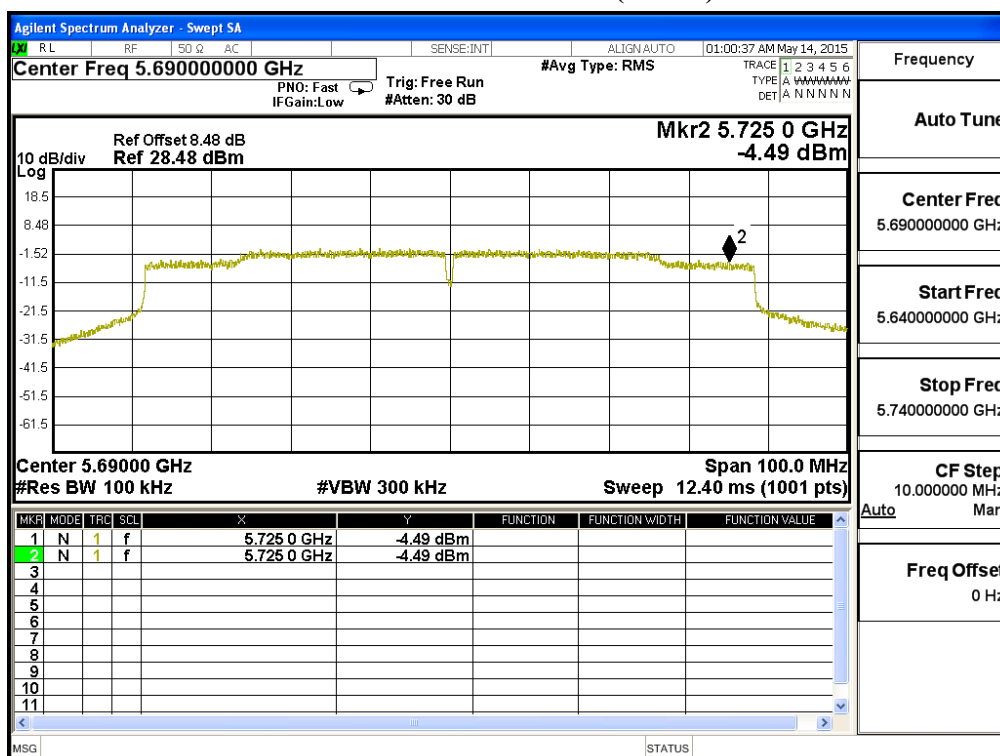
Channel 122



Channel 138 (Band3)



Channel 138 (Band4)



Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 2 SISO B: Transmit (802.11a-6Mbps)

Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
36	5180	9.798	0.079	9.877	<11	Pass
44	5220	10.004	0.079	10.083	<11	Pass
48	5240	10.069	0.079	10.148	<11	Pass
52	5260	9.985	0.079	10.064	<11	Pass
60	5300	9.982	0.079	10.061	<11	Pass
64	5320	9.258	0.079	9.337	<11	Pass
100	5500	7.464	0.079	7.543	<11	Pass
116	5580	10.930	0.079	11.009	<11	Pass
140	5700	5.332	0.079	5.411	<11	Pass

Note: Total PPSD = PPSD value + Duty Factor

Keysight Spectrum Analyzer - Swept SA

R L RF 50 Ω AC SENSE:INT ALIGN AUTO 05:36:08 AM May 15, 2015

Center Freq 5.18000000 GHz

PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB #Avg Type: RMS

TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNN

Ref Offset 1.5 dB Ref 21.50 dBm

Mkr1 5.177 175 GHz 9.80 dBm

10 dB/div Log

Center 5.18000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Span 25.00 MHz Sweep 1.000 ms (1001 pts)

MSG STATUS

Keysight Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT ALIGN AUTO 05:37:14 AM May 15, 2015

Center Freq 5.22000000 GHz **#Avg Type: RMS**

PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB

TRACE 1 2 3 4 5 6 TYPE A W W W W W W W DET A N N N N N

Mkr1 5.223 925 GHz 10.00 dBm

10 dB/div Log

Ref Offset 1.5 dB Ref 21.50 dBm

Center 5.22000 GHz Span 25.00 MHz

#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)

Frequency Auto Tune

Center Freq 5.22000000 GHz

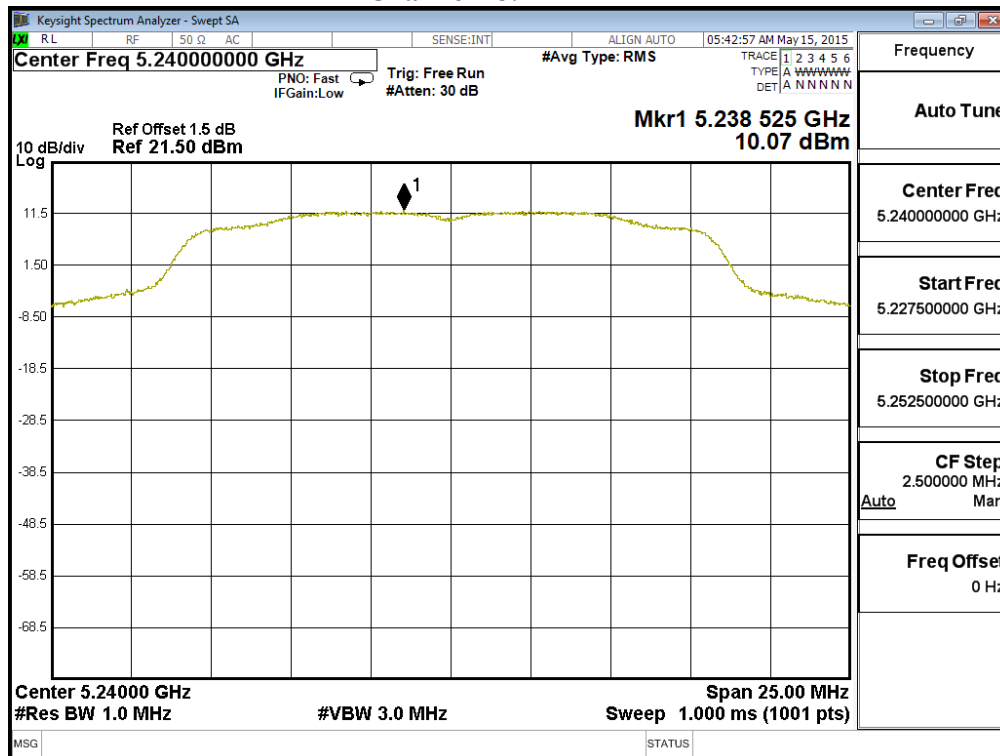
Start Freq 5.207500000 GHz

Stop Freq 5.232500000 GHz

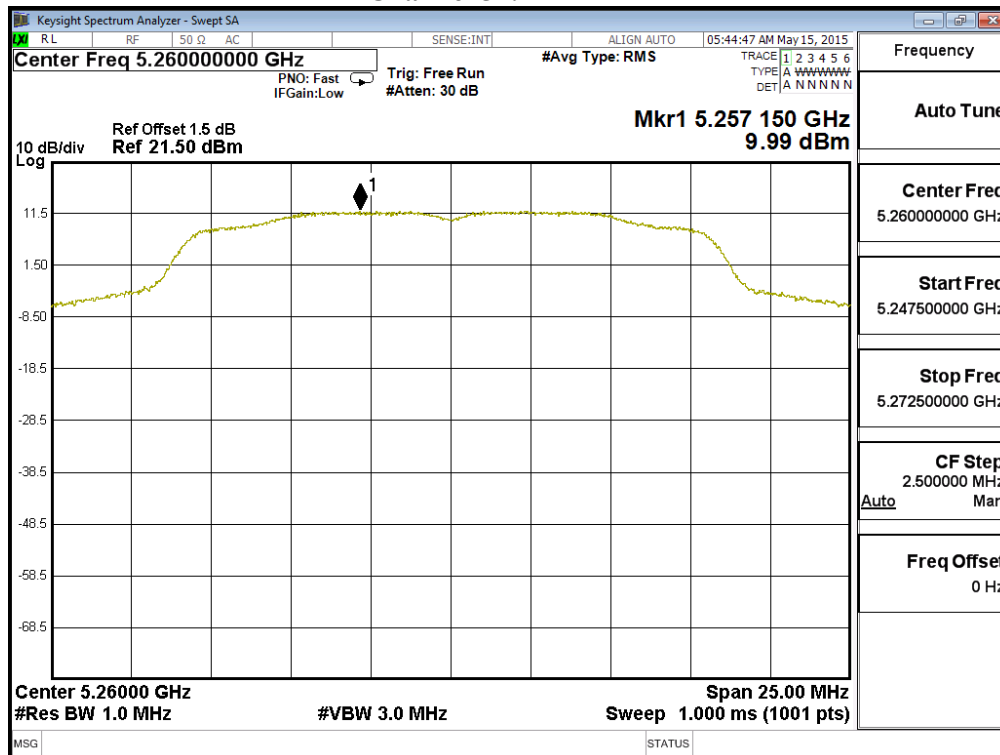
CF Step 2.500000 MHz Auto Man

Freq Offset 0 Hz

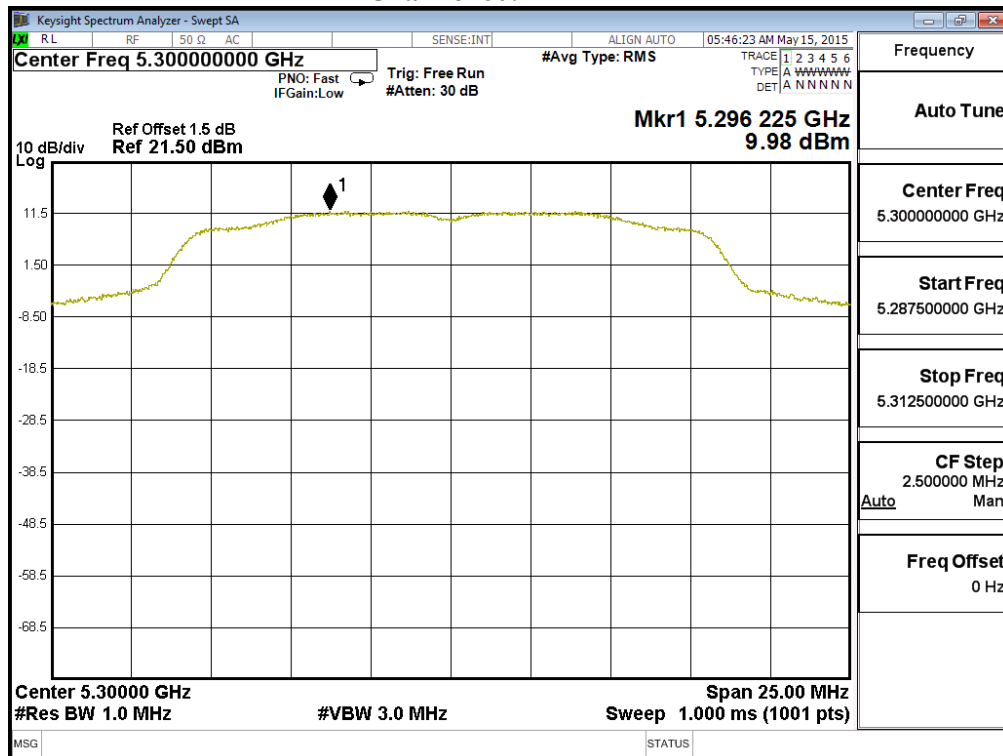
Channel 48:



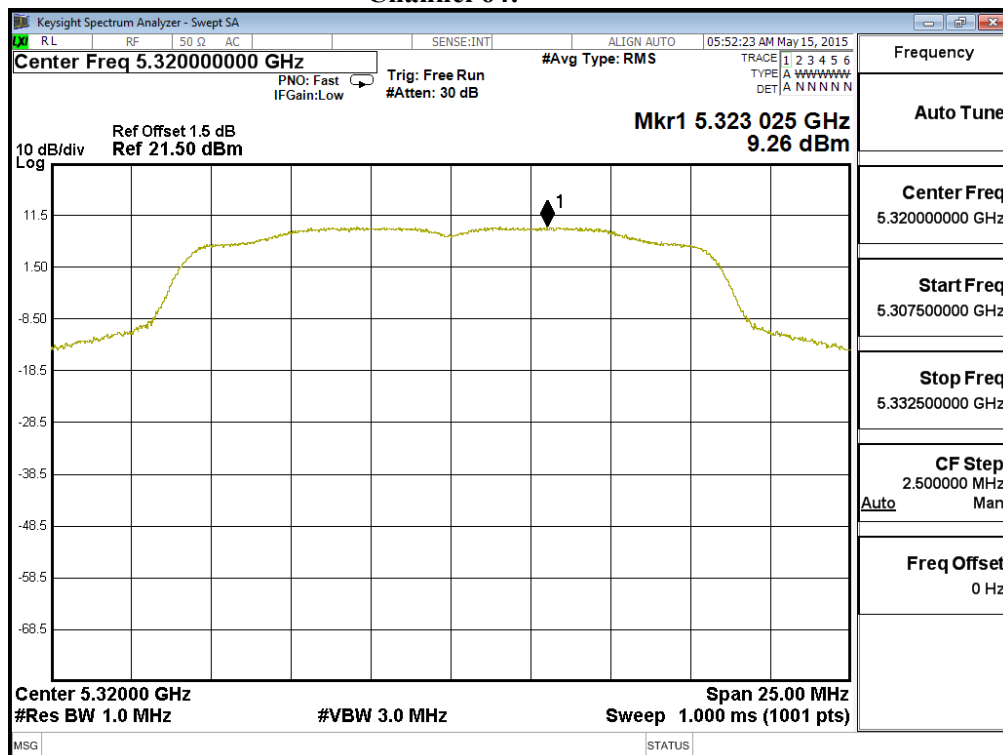
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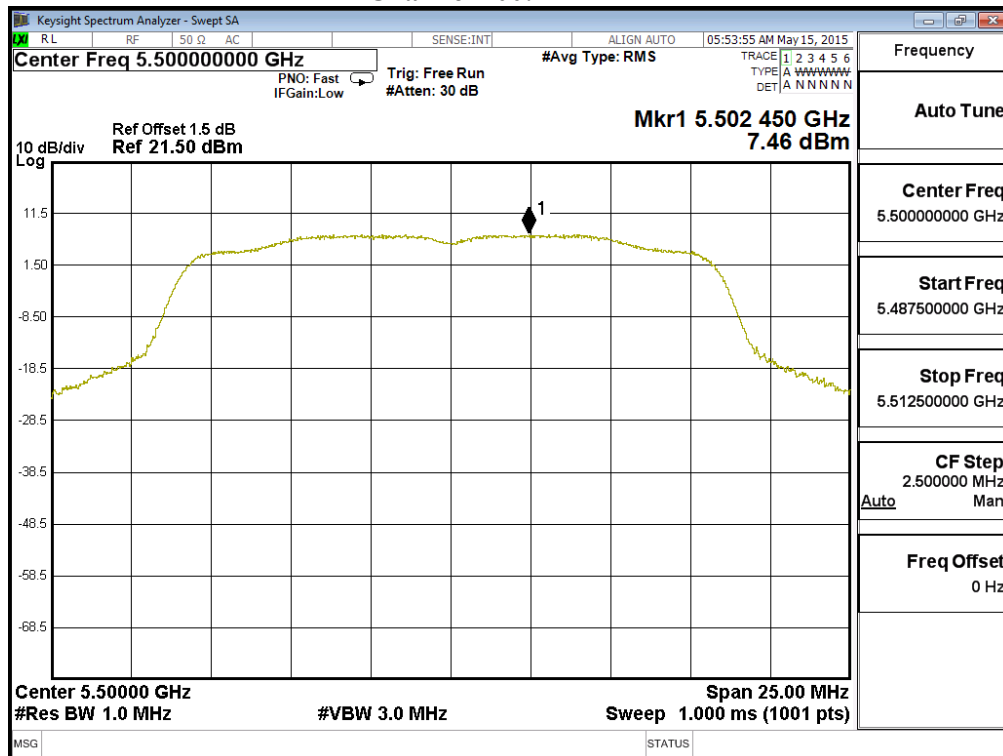
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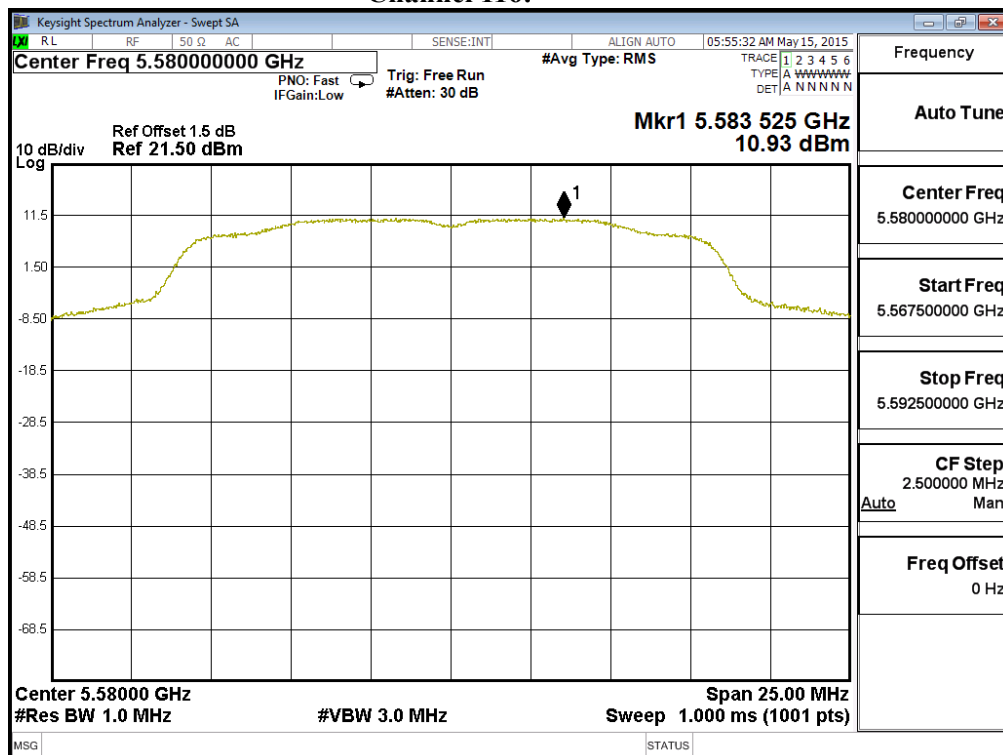
Channel 64:



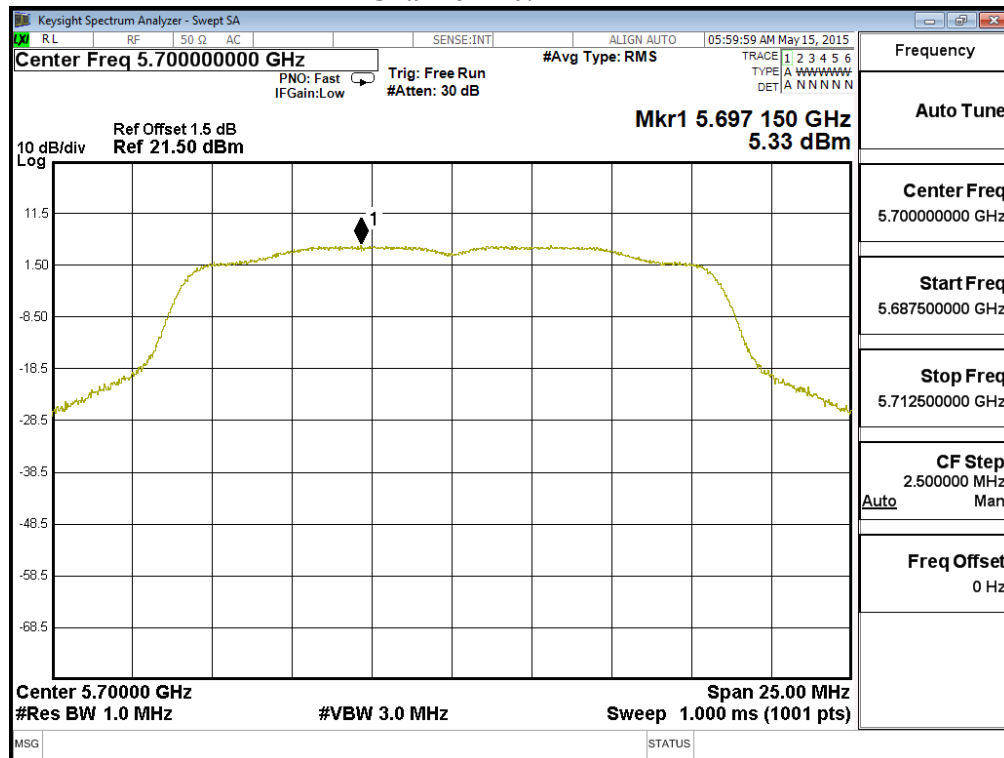
Channel 100:



Channel 116:



Channel 140:

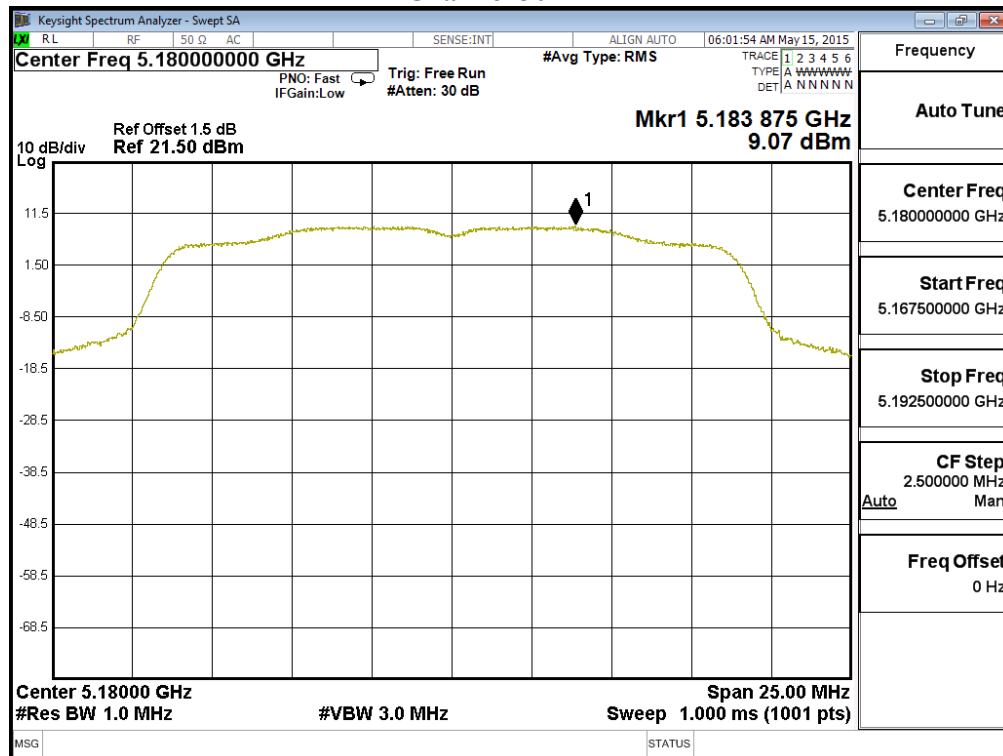


Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 2 SISO B: Transmit (802.11n-20BW 7.2Mbps)

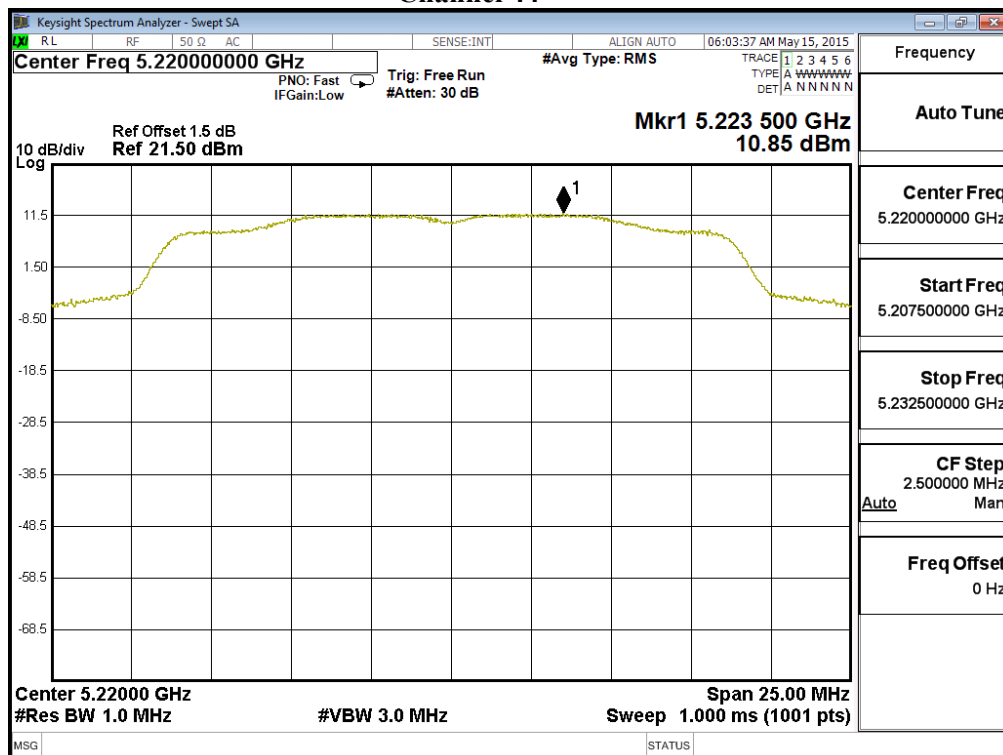
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
36	5180	9.072	0.088	9.160	<11	Pass
44	5220	10.850	0.088	10.938	<11	Pass
48	5240	10.760	0.088	10.848	<11	Pass
52	5260	9.754	0.088	9.842	<11	Pass
60	5300	9.725	0.088	9.813	<11	Pass
64	5320	8.628	0.088	8.716	<11	Pass
100	5500	6.918	0.088	7.006	<11	Pass
116	5580	10.740	0.088	10.828	<11	Pass
140	5700	4.879	0.088	4.967	<11	Pass

Note: Total PPSD = PPSD value + Duty Factor

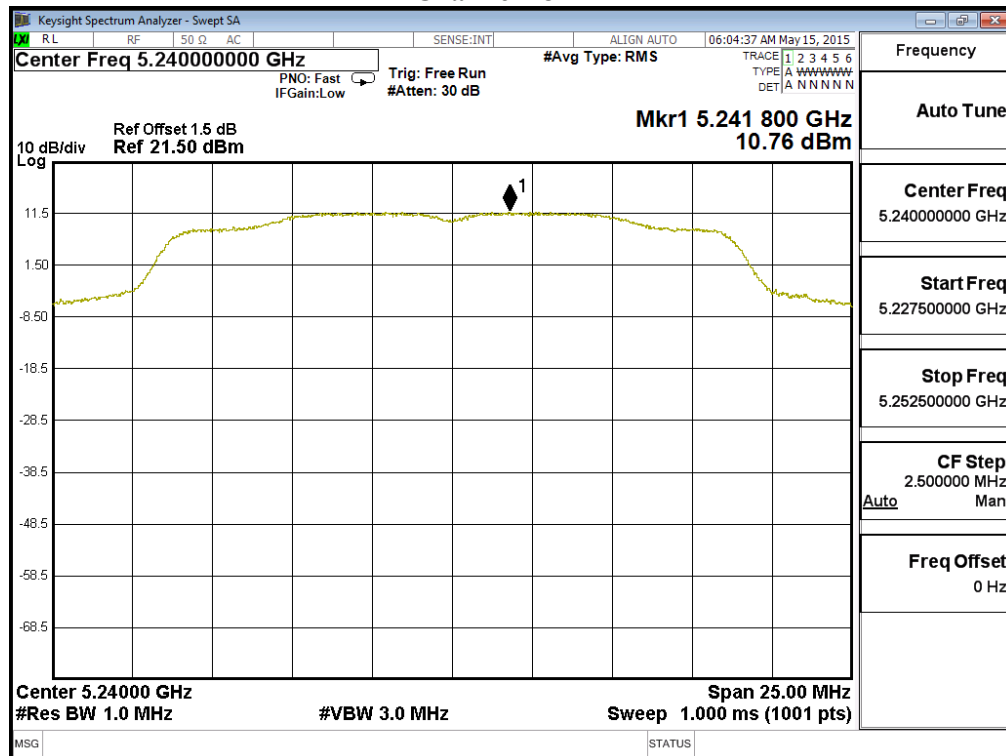
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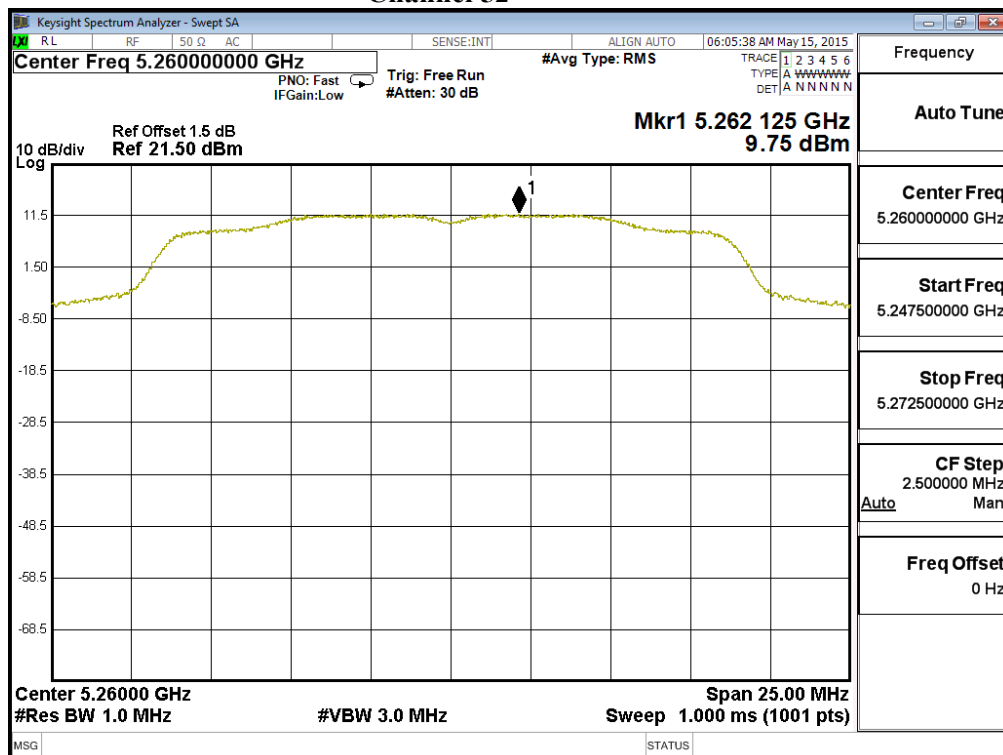
Channel 44



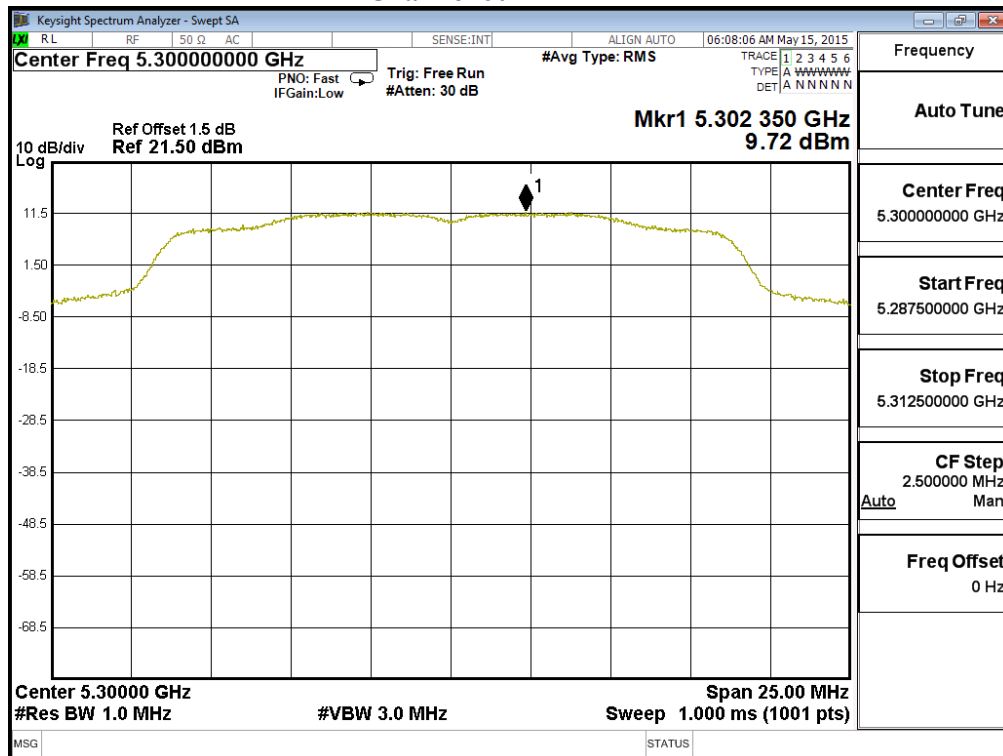
Channel 48



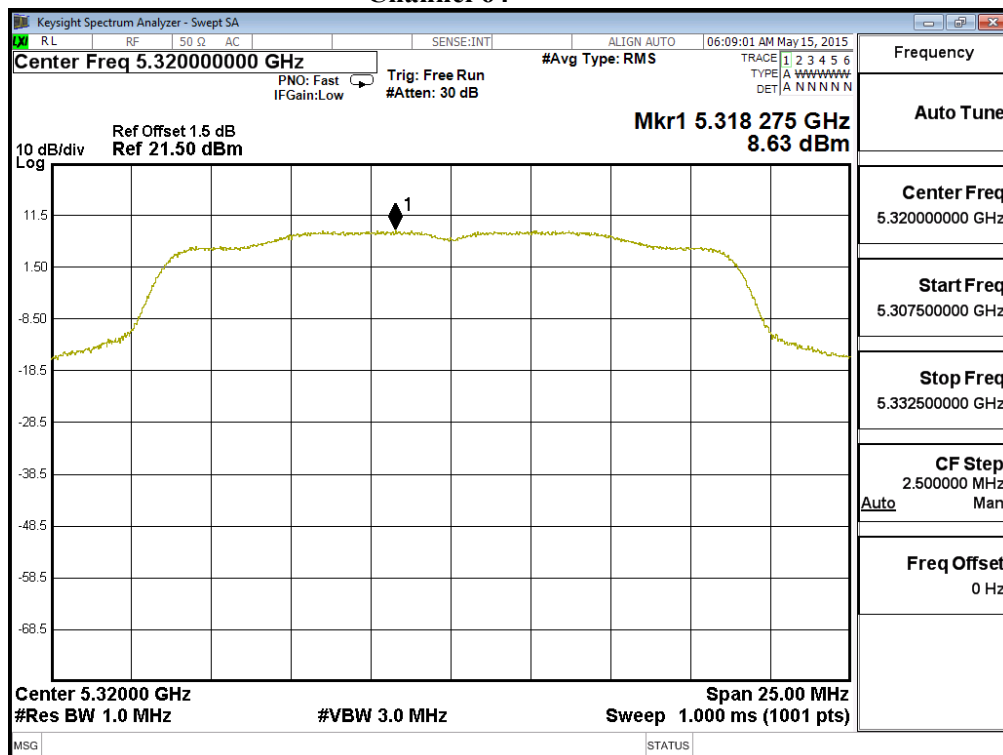
Channel 52



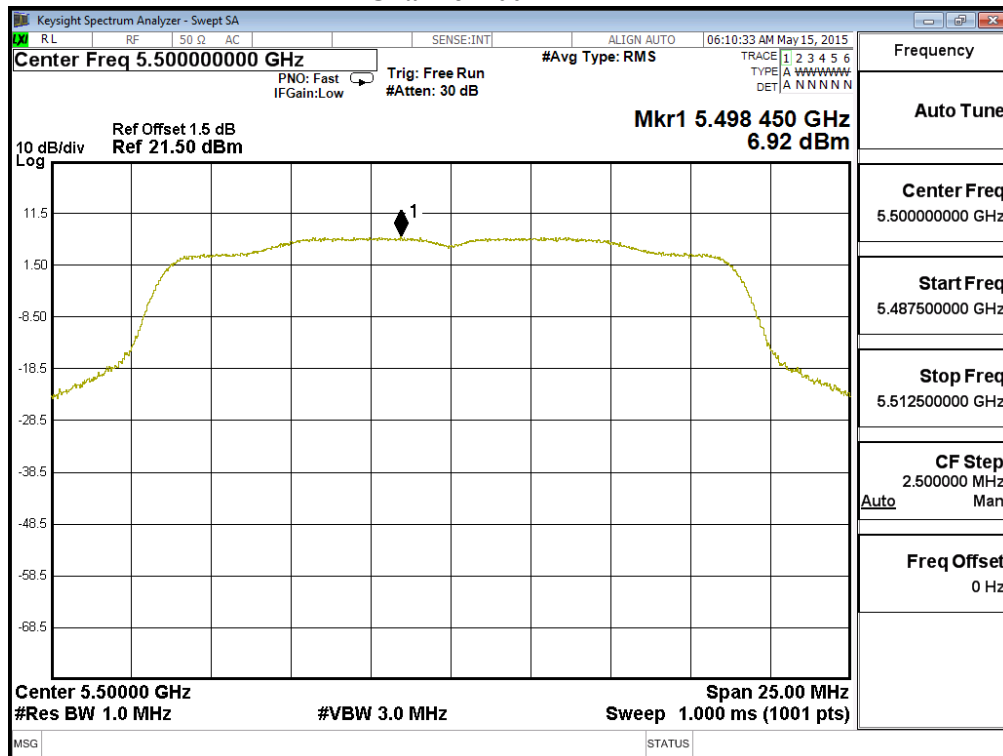
Channel 60



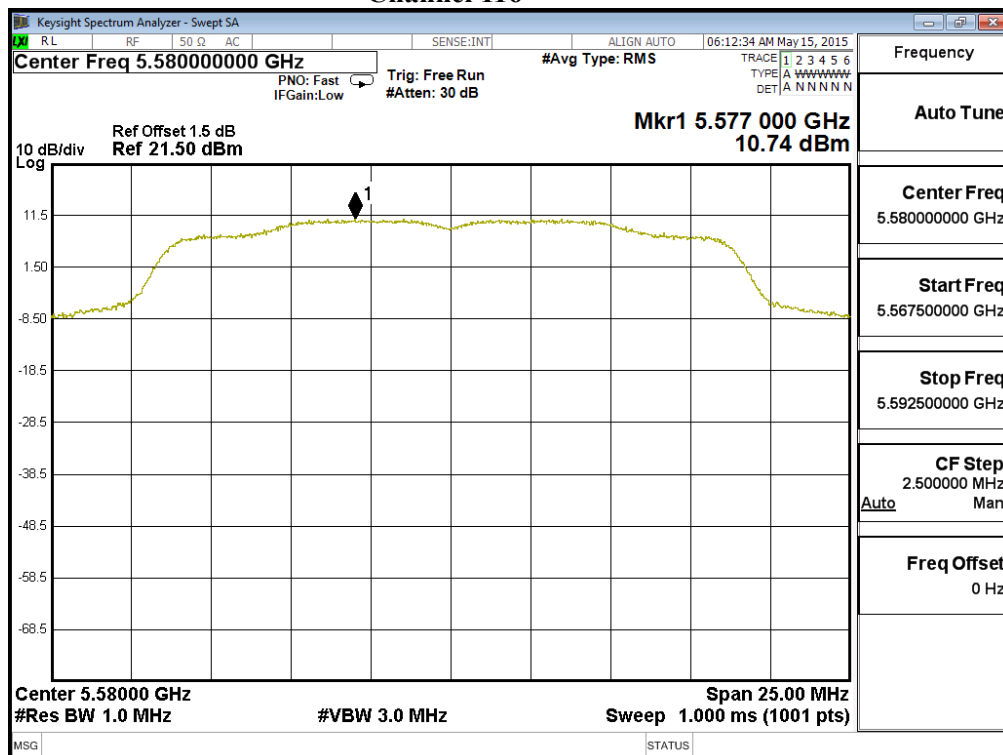
Channel 64



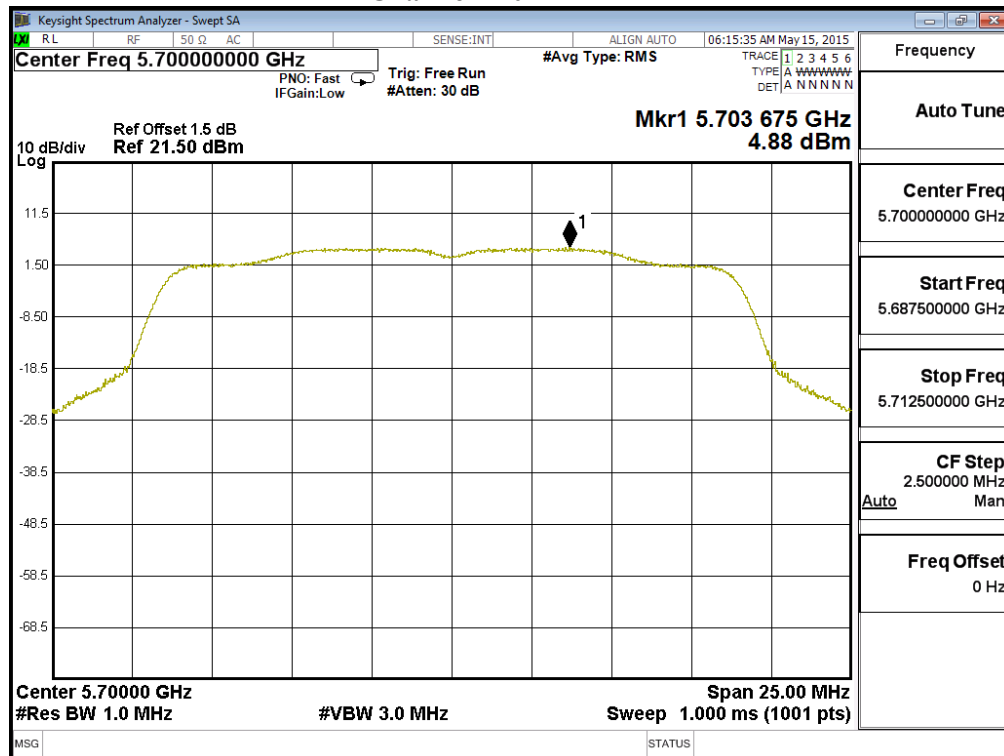
Channel 100



Channel 116



Channel 140

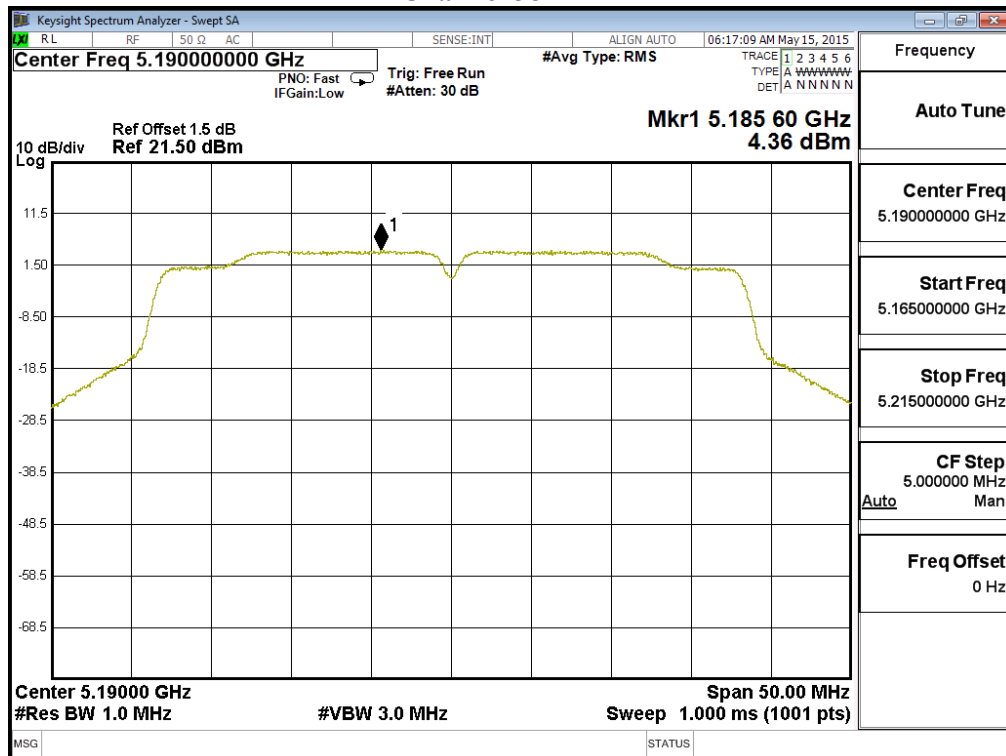


Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 2 SISO B: Transmit (802.11n-40BW 15Mbps)

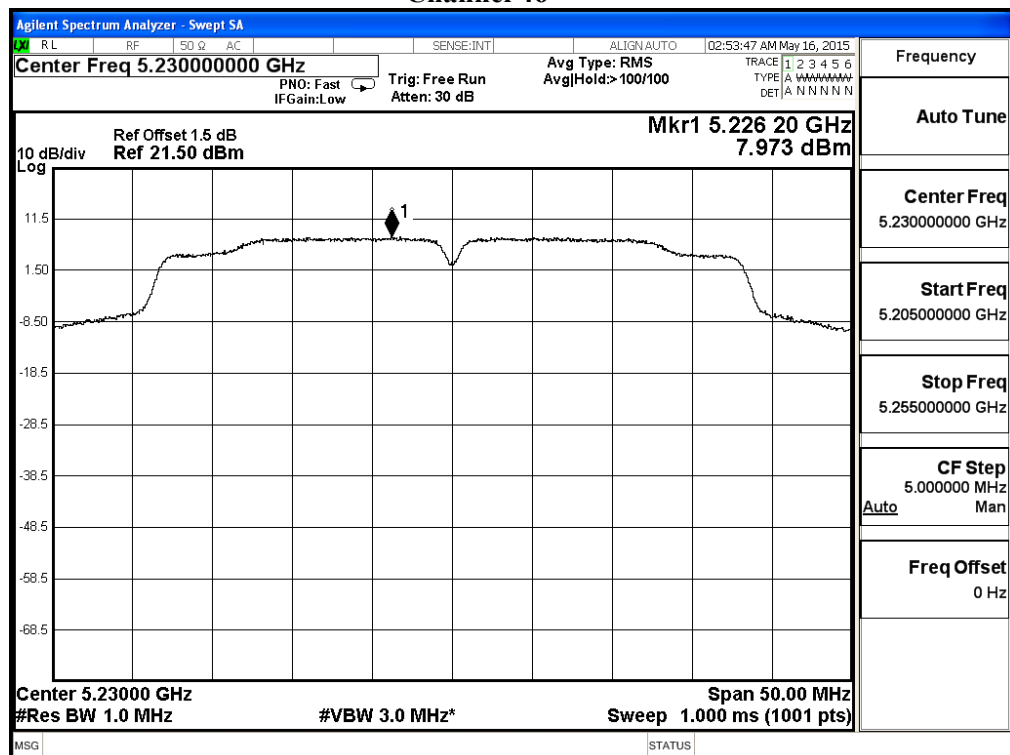
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
38	5190	4.360	0.150	4.510	<11	Pass
46	5230	7.973	0.150	8.123	<11	Pass
54	5270	7.965	0.150	8.115	<11	Pass
62	5310	2.443	0.150	2.593	<11	Pass
102	5510	1.136	0.150	1.286	<11	Pass
110	5550	7.650	0.150	7.800	<11	Pass
134	5670	6.227	0.150	6.377	<11	Pass

Note: Total PPSD = PPSD value + Duty Factor

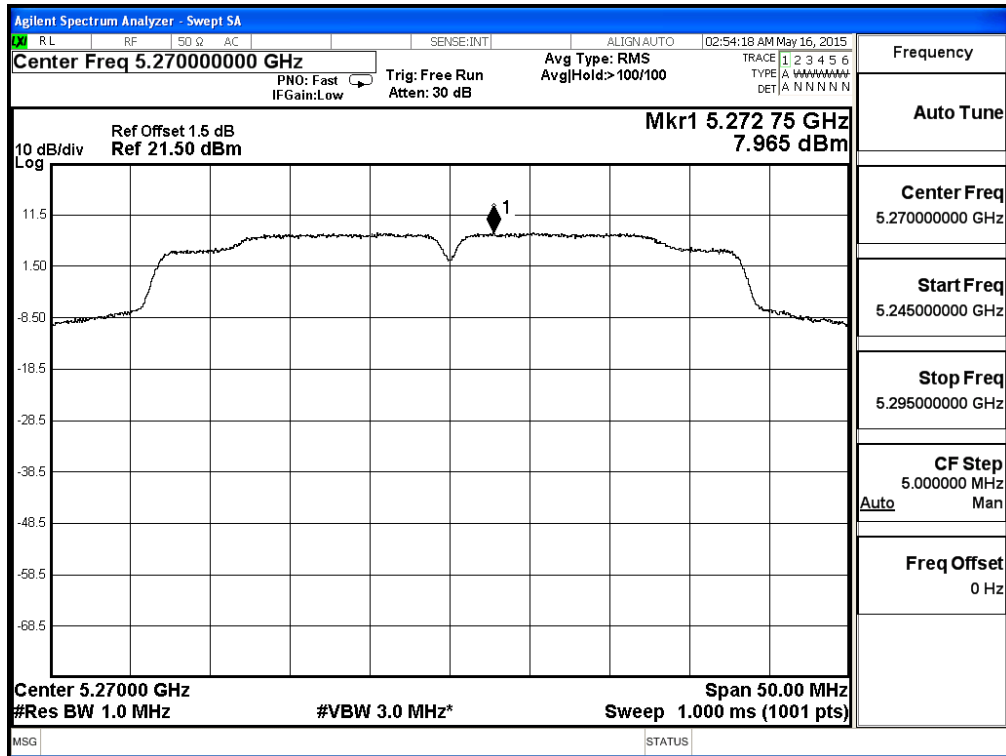
Channel 38



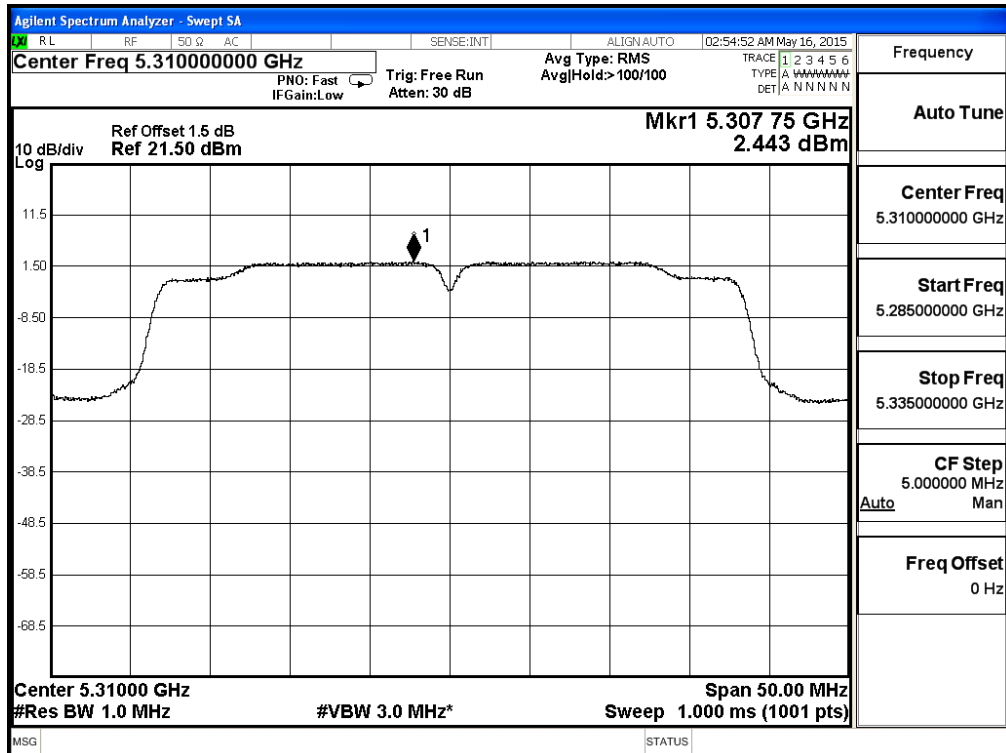
Channel 46



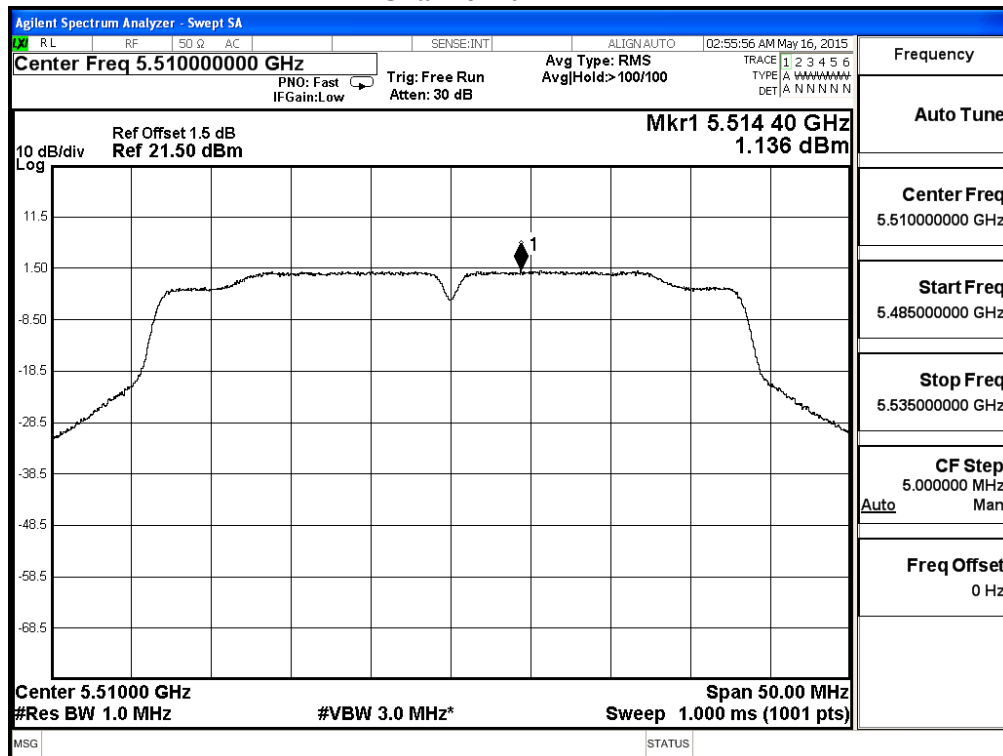
Channel 54



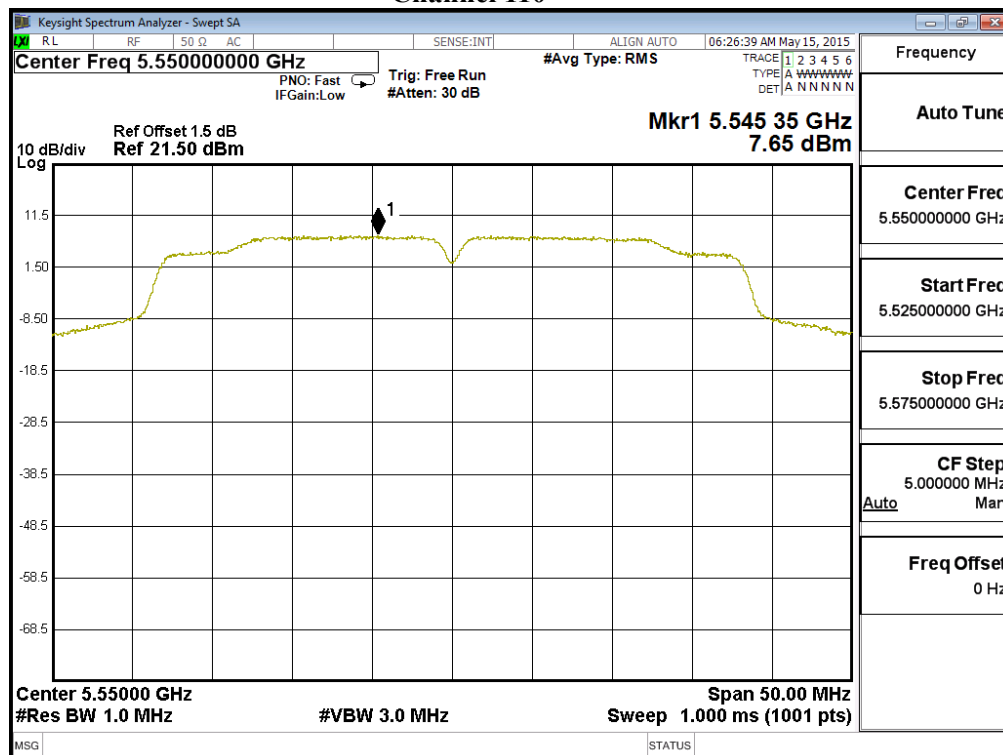
Channel 62



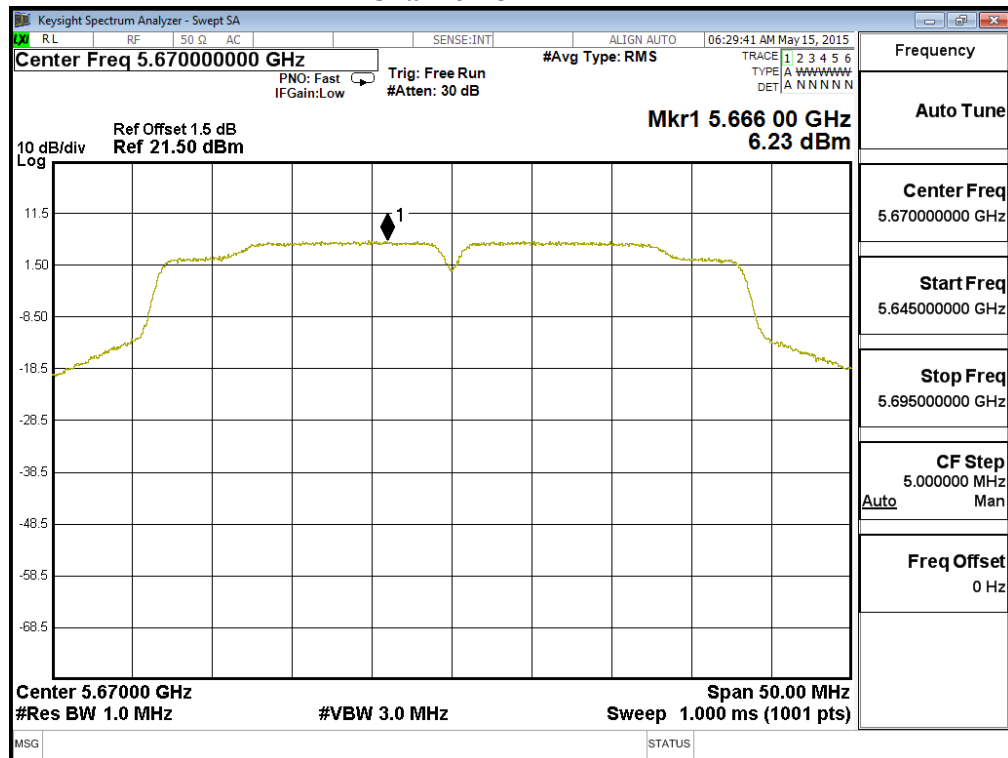
Channel 102



Channel 110



Channel 134

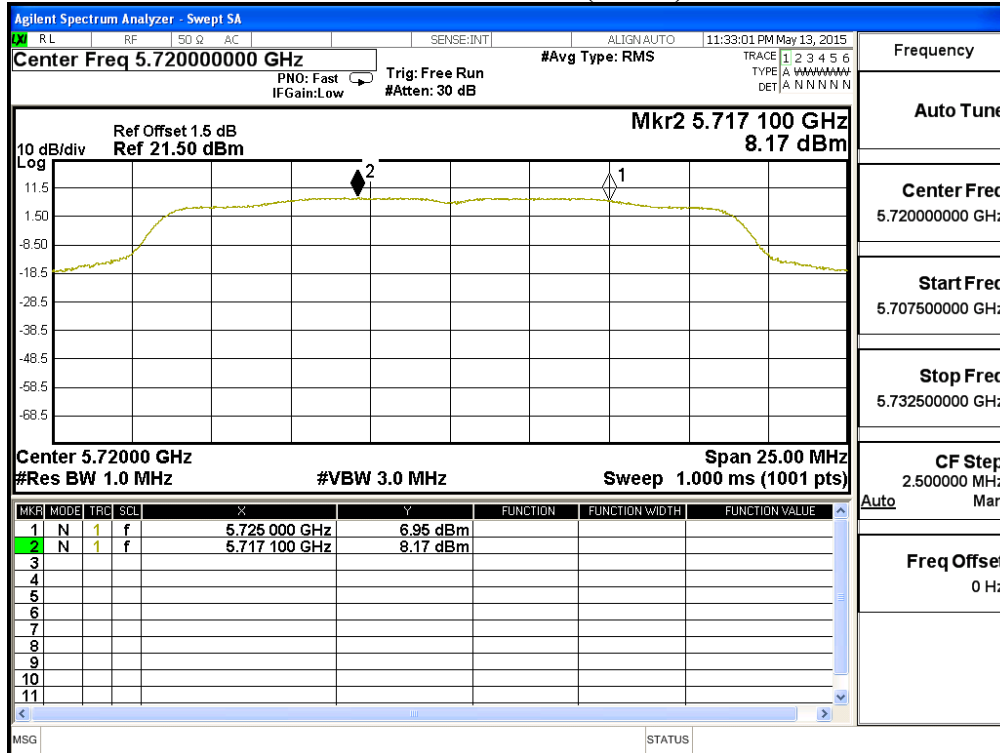


Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 2 SISO B: Transmit (802.11ac-20BW-7.2Mbps)

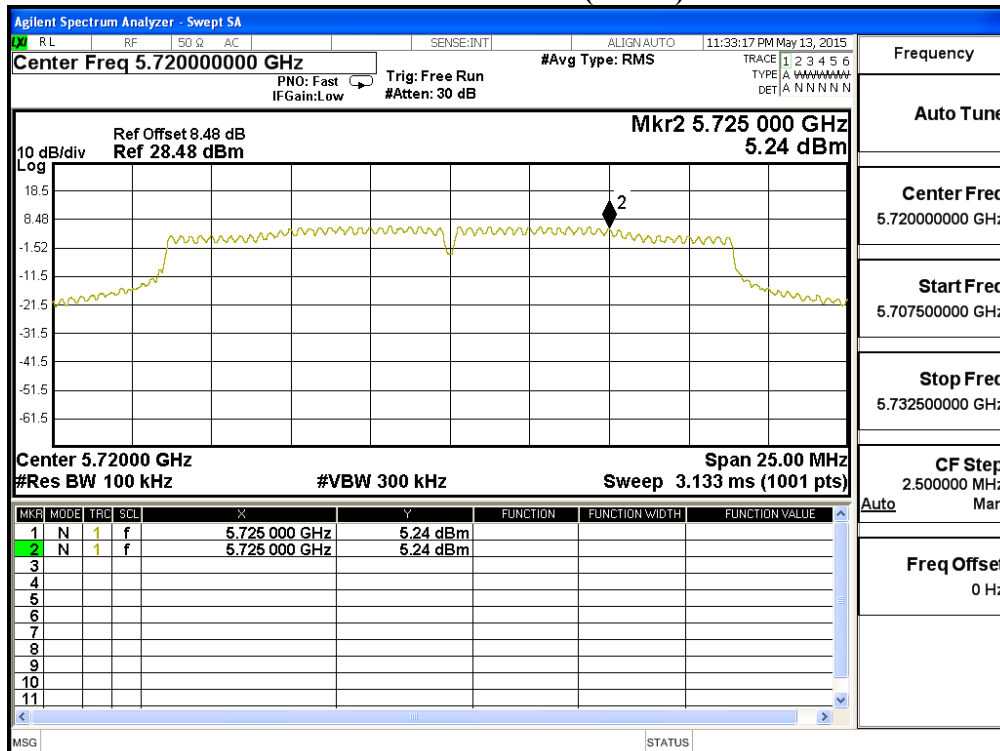
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
144	5720(Band3)	8.170	0.110	8.280	<11	Pass
144	5720(Band4)	5.240	0.110	5.350	<30	Pass

Note: Total PPSD = PPSD value + Duty Factor

Channel 144 (Band3)



Channel 144 (Band4)

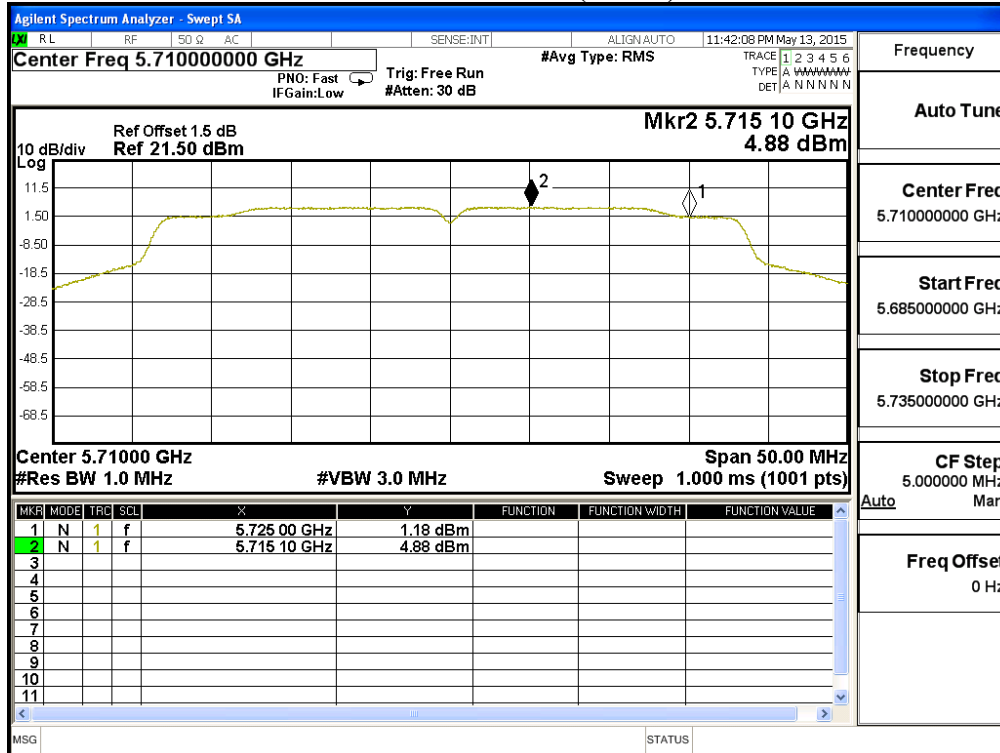


Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 2 SISO B: Transmit (802.11ac-40BW-15Mbps)

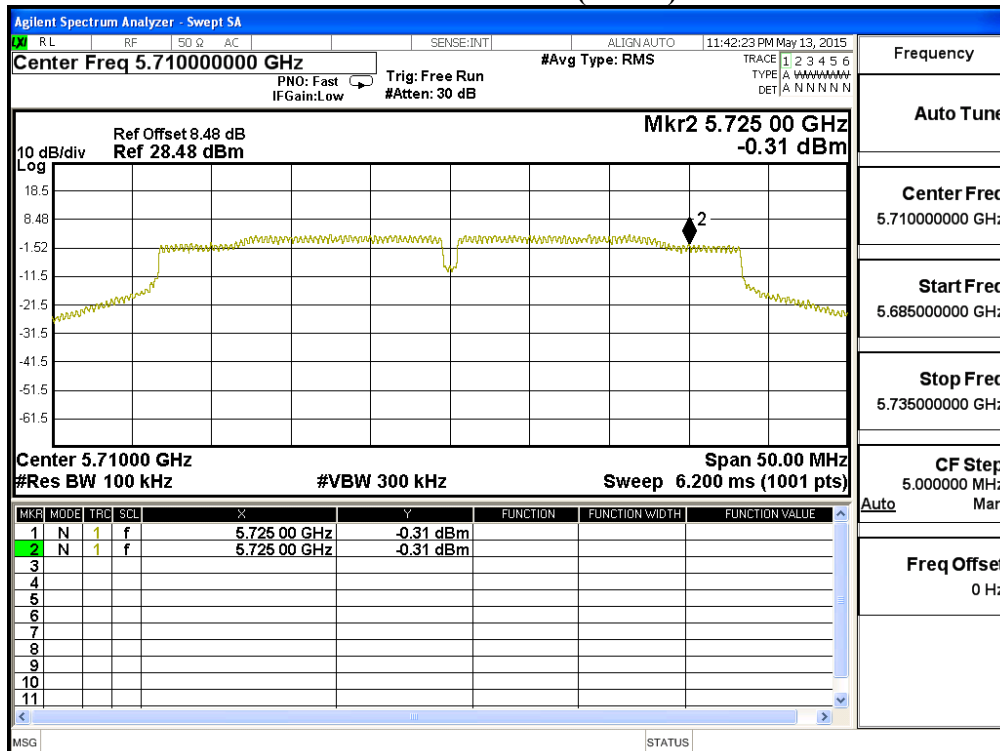
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
142	5710(Band3)	4.880	0.315	5.195	<11	Pass
142	5710(Band4)	-0.310	0.315	0.005	<30	Pass

Note: Total PPSD = PPSD value + Duty Factor

Channel 142(Band3)



Channel 142(Band4)

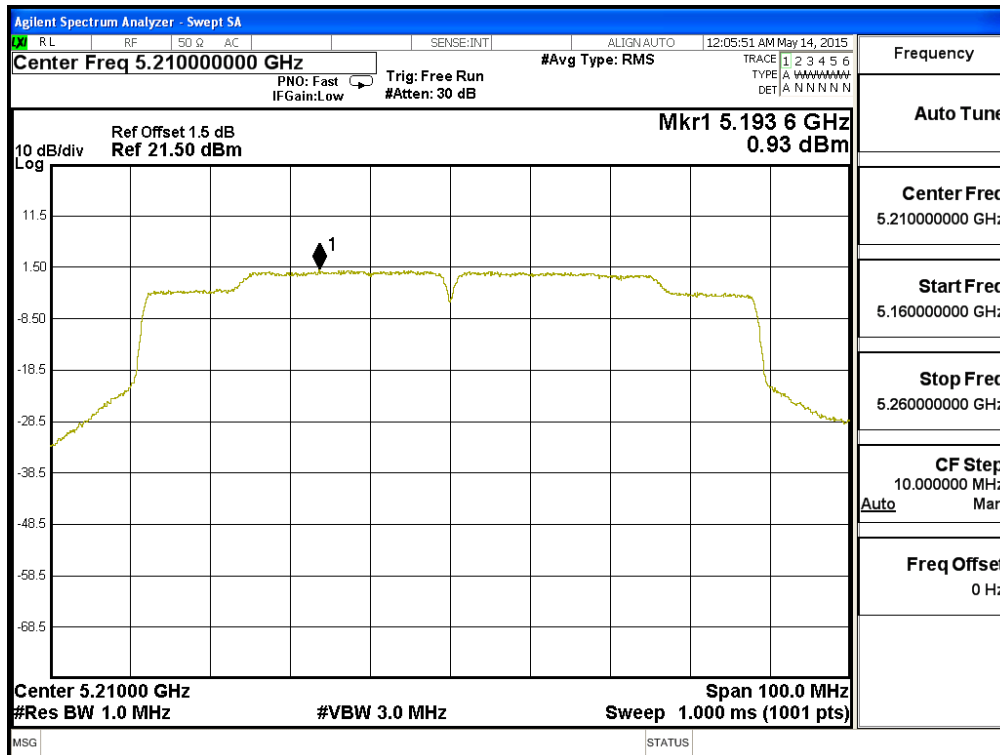


Product : Intel® Dual Band Wireless-AC 8260
 Test Item : Peak Power Spectral Density
 Test Site : No.3 OATS
 Test Mode : Mode 2 SISO B: Transmit (802.11ac-80BW-32.5Mbps)

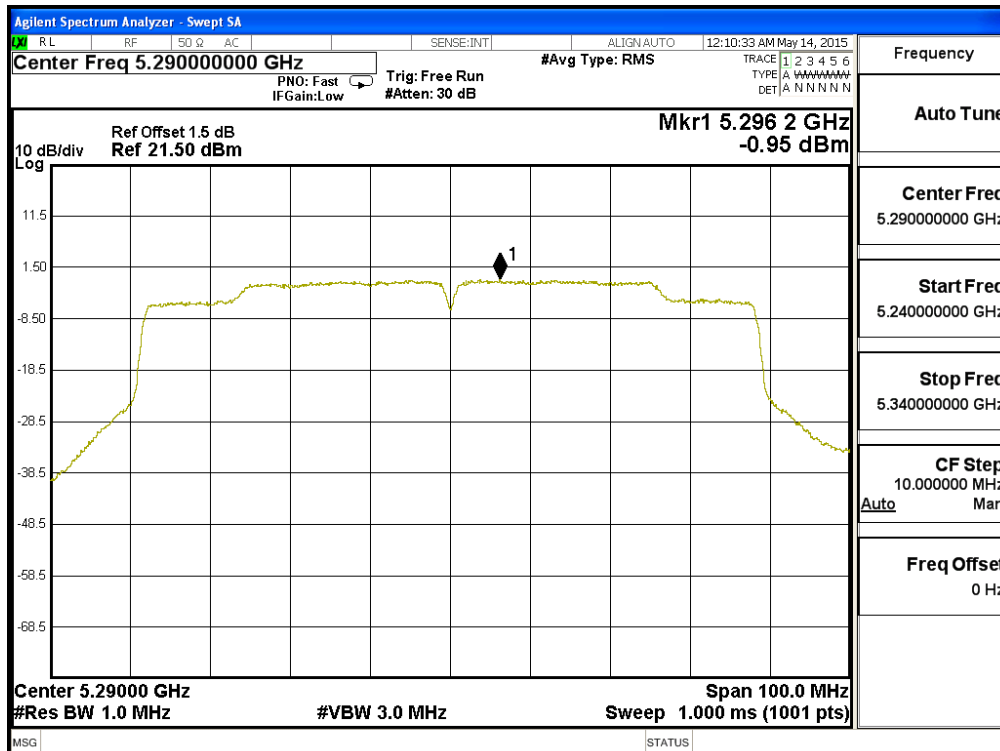
Channel Number	Frequency (MHz)	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
42	5210	0.930	0.283	1.213	<11	Pass
58	5290	-0.950	0.283	-0.667	<11	Pass
106	5530	-1.930	0.283	-1.647	<11	Pass
122	5610	1.280	0.283	1.563	<11	Pass
138	5690 (Band3)	1.310	0.283	1.593	<11	Pass
138	5690 (Band4)	-4.590	0.283	-4.307	<30	Pass

Note: Total PPSD = PPSD value + Duty Factor

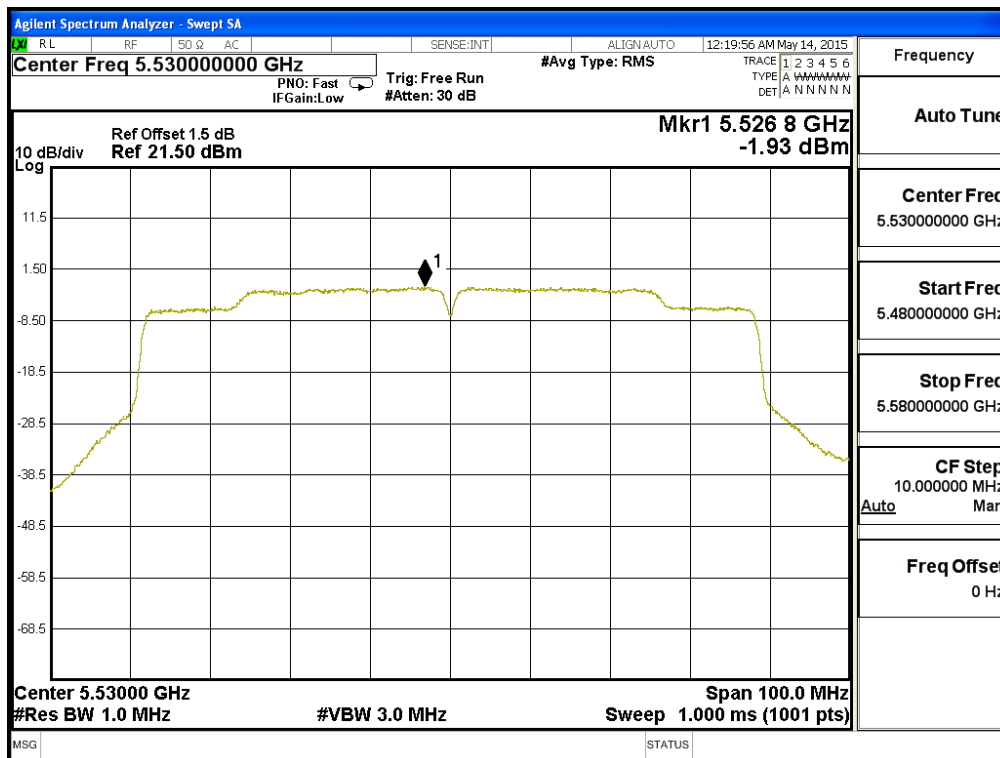
Channel 42



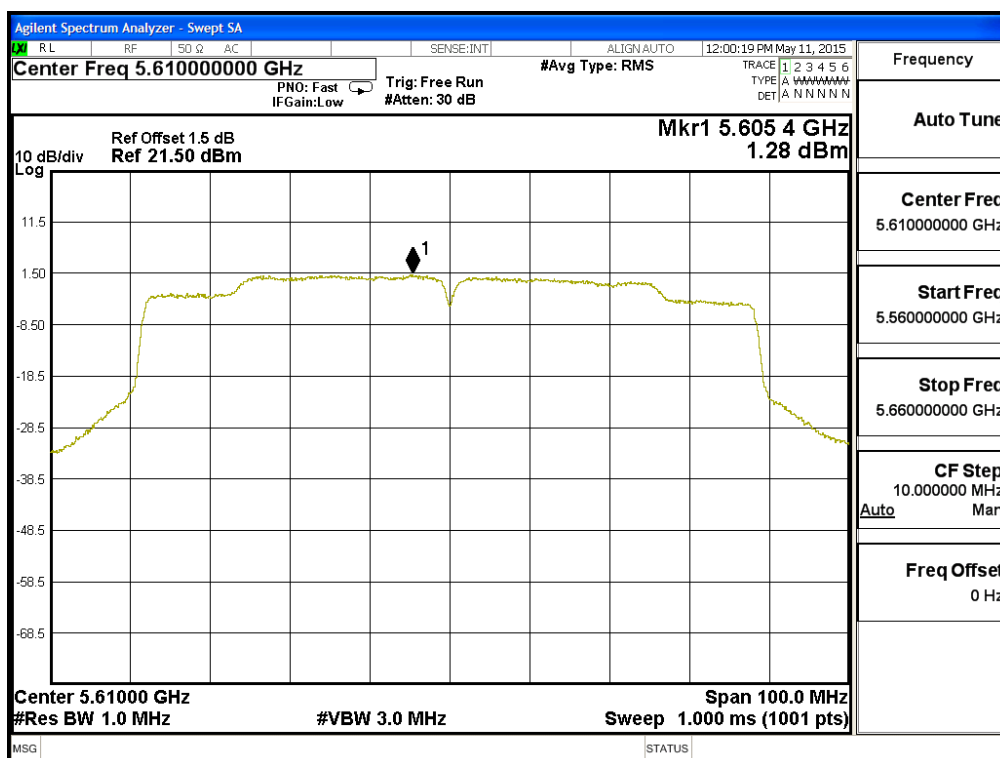
Channel 58



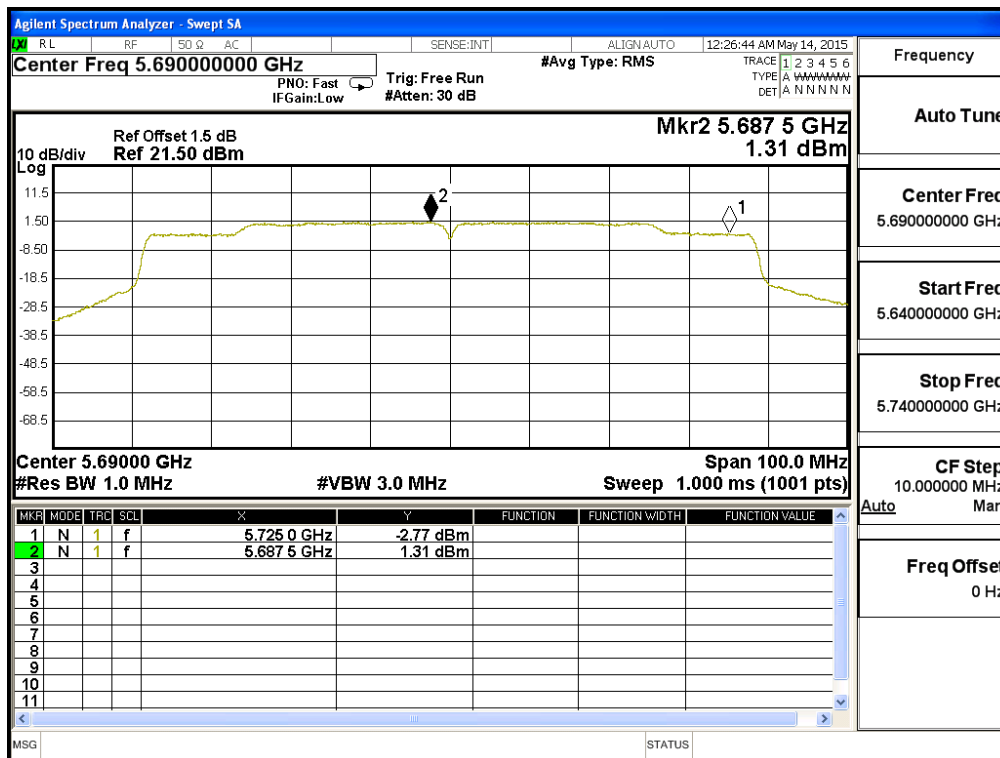
Channel 106



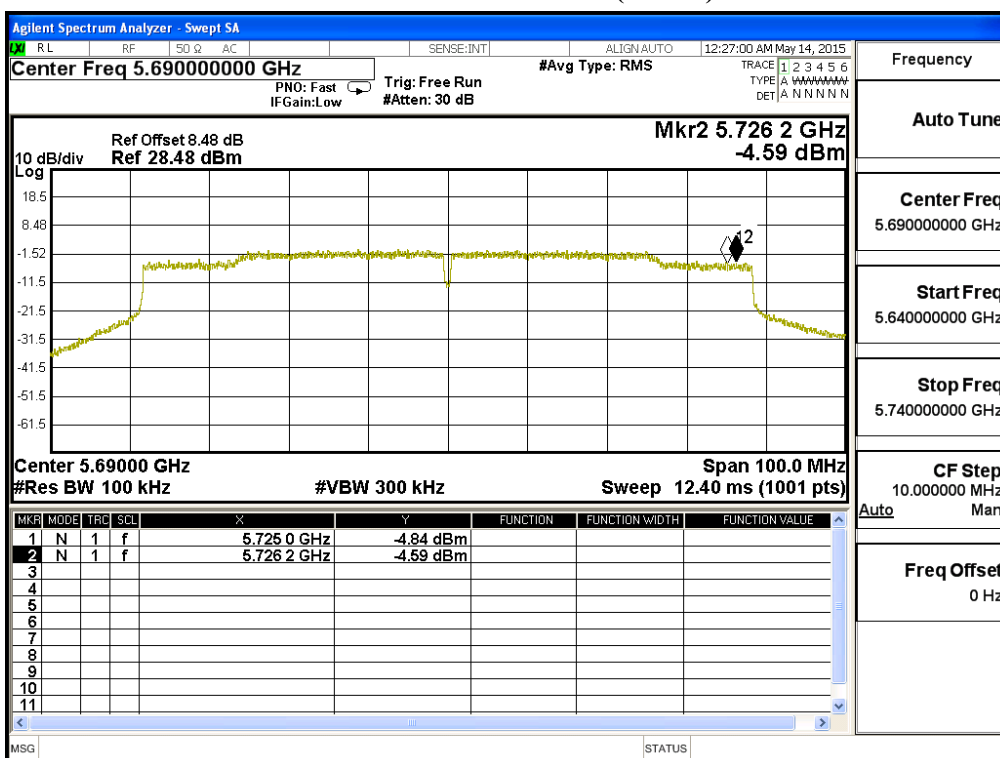
Channel 122



Channel 138 (Band3)



Channel 138 (Band4)



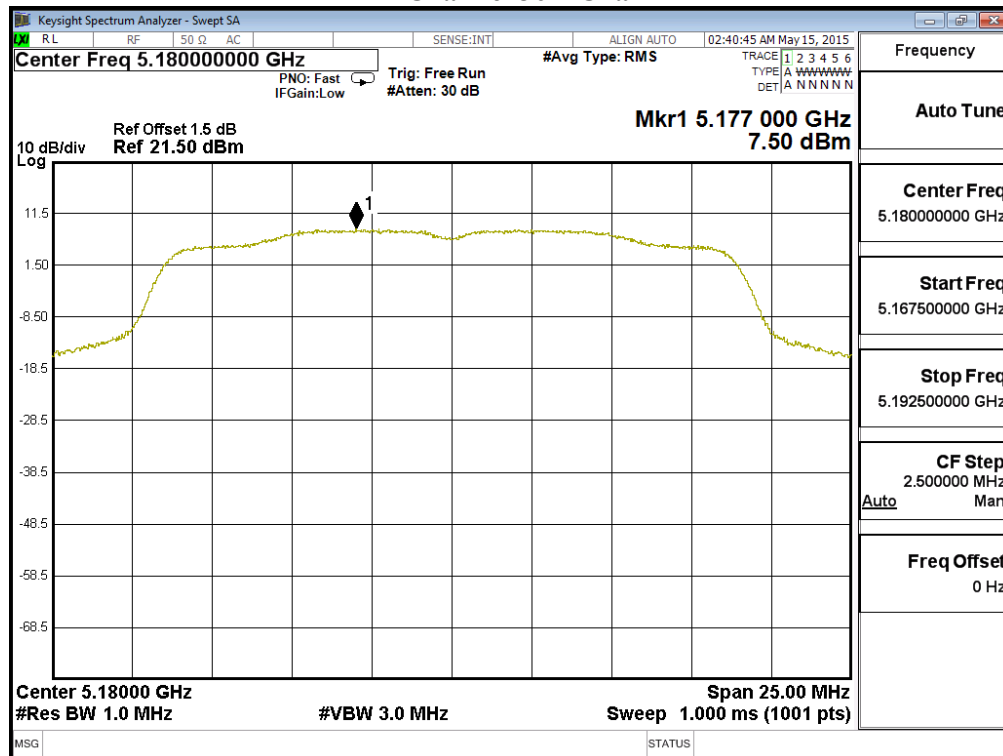
Product : Intel® Dual Band Wireless-AC 8260
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3 MIMO: Transmit (802.11n-20BW 14.4Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
36	5180	A	7.501	0.088	10.599	<11	Pass
		B	7.648	0.088	10.746	<11	Pass
44	5220	A	7.264	0.088	10.362	<11	Pass
		B	7.141	0.088	10.239	<11	Pass
48	5240	A	7.092	0.088	10.190	<11	Pass
		B	7.659	0.088	10.757	<11	Pass
52	5260	A	7.440	0.088	10.538	<11	Pass
		B	7.680	0.088	10.778	<11	Pass
60	5300	A	7.525	0.088	10.623	<11	Pass
		B	7.725	0.088	10.823	<11	Pass
64	5320	A	7.948	0.088	11.046	<11	Pass
		B	6.885	0.088	9.983	<11	Pass
100	5500	A	6.230	0.088	9.328	<11	Pass
		B	7.139	0.088	10.237	<11	Pass
116	5580	A	7.970	0.088	11.068	<11	Pass
		B	7.840	0.088	10.938	<11	Pass
140	5700	A	4.795	0.088	7.893	<11	Pass
		B	4.581	0.088	7.679	<11	Pass

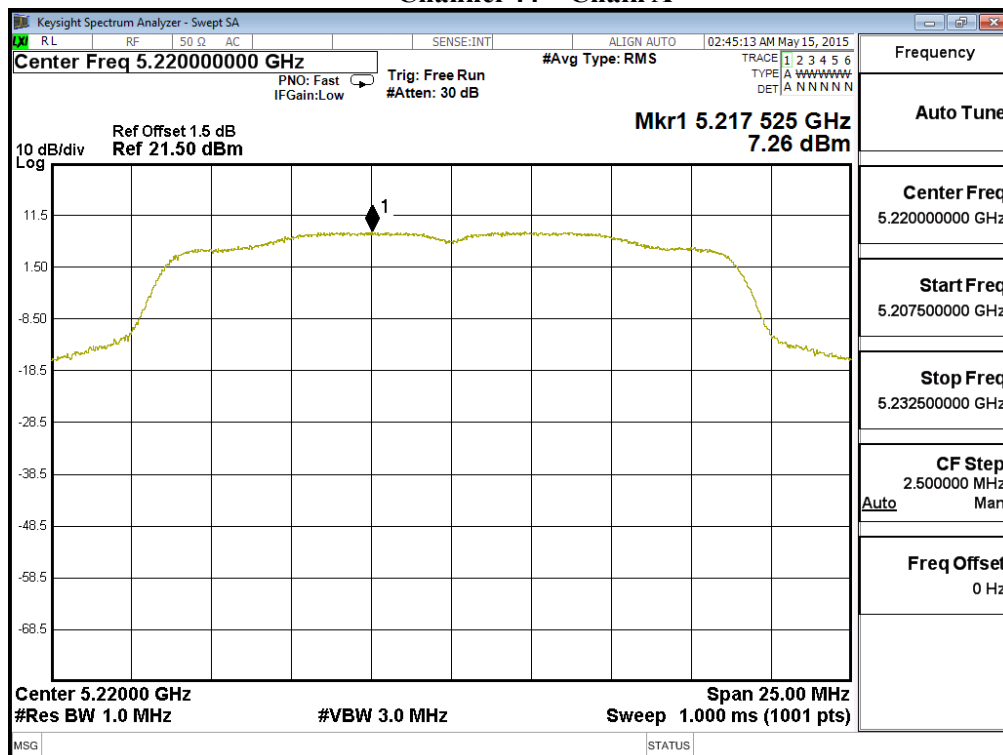
Note:

1. The quantity $10 \cdot \log 2$ (two antennas) is added to the spectrum peak value according to document 662911 D01.
2. Total PPSSD = PPSSD value + Duty Factor + $10 \cdot \log 2$.

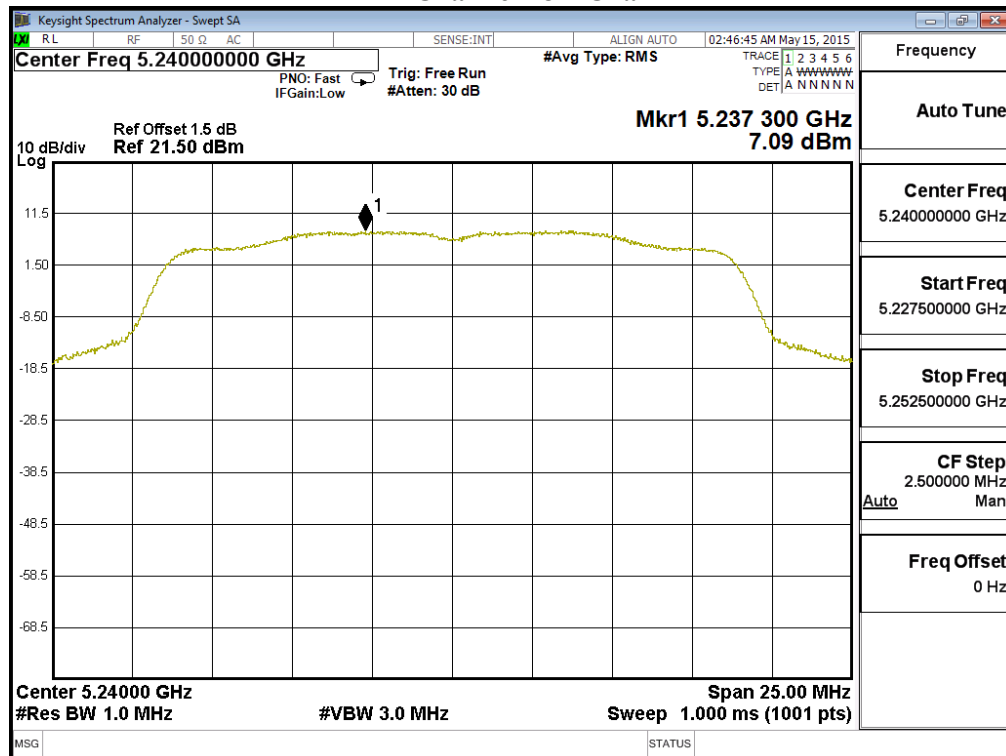
Channel 36 – Chain A



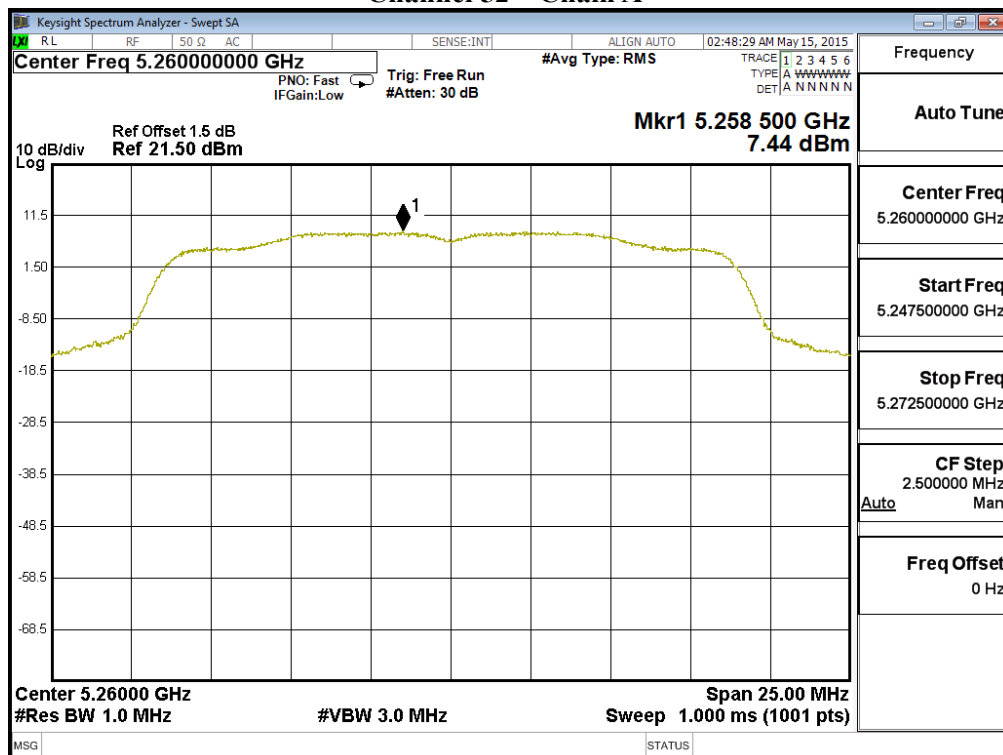
Channel 44 – Chain A



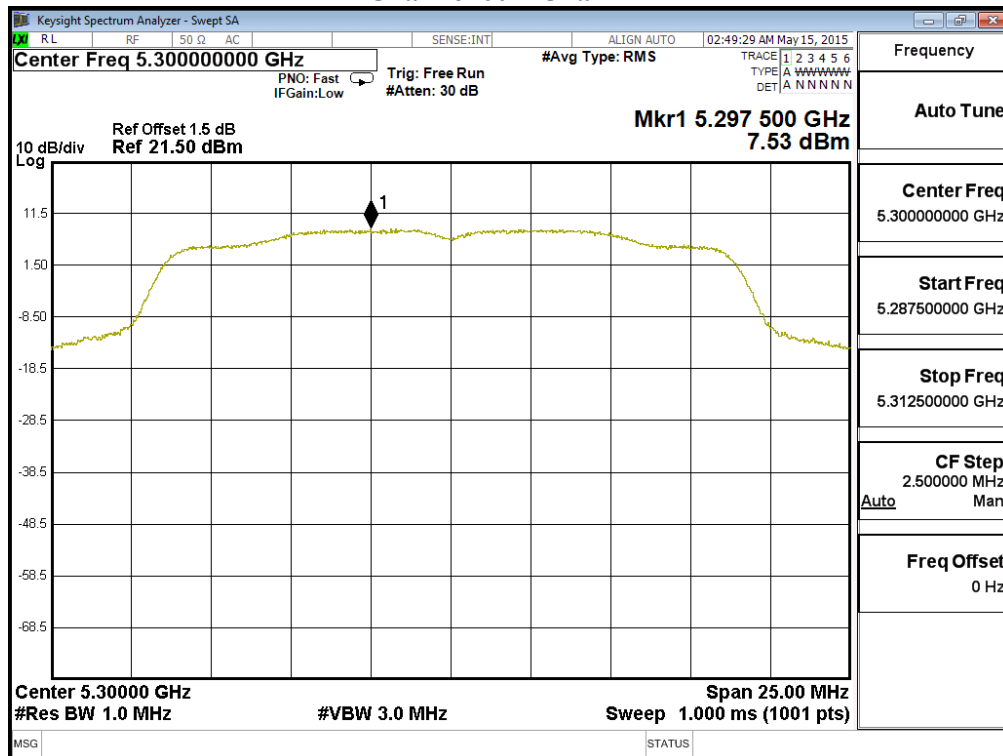
Channel 48 – Chain A



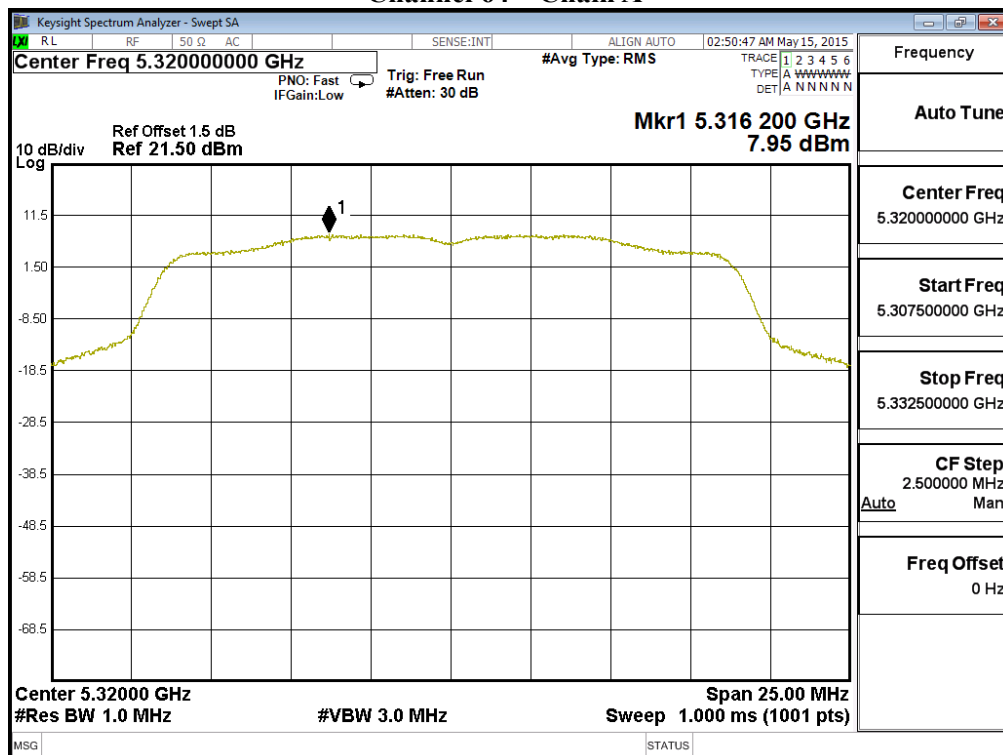
Channel 52 – Chain A



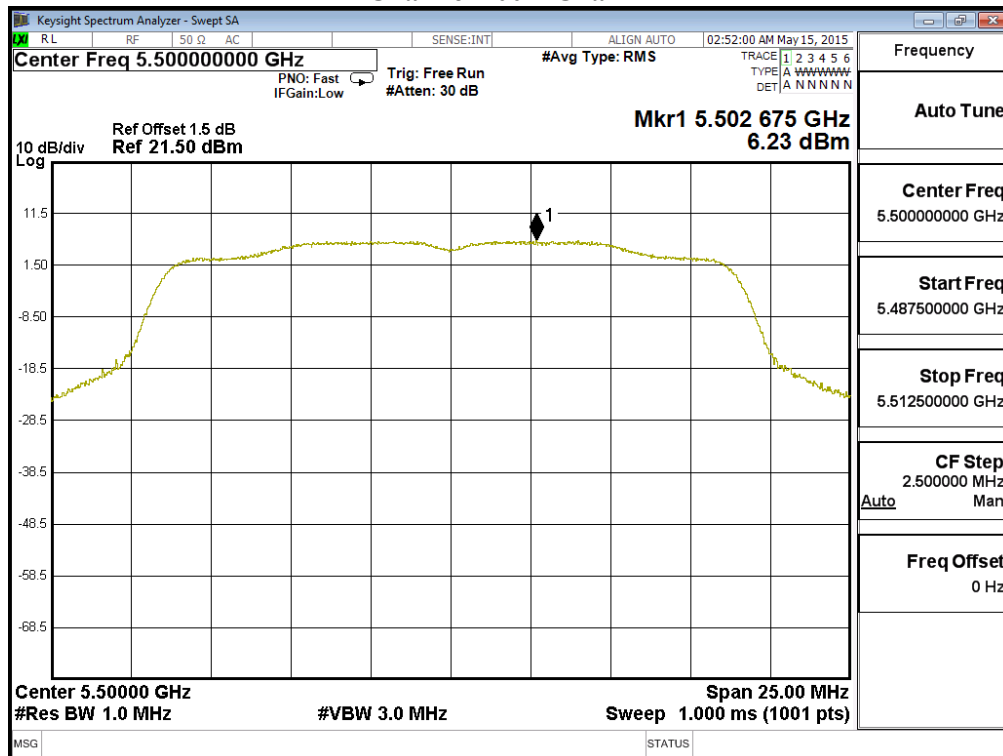
Channel 60 – Chain A



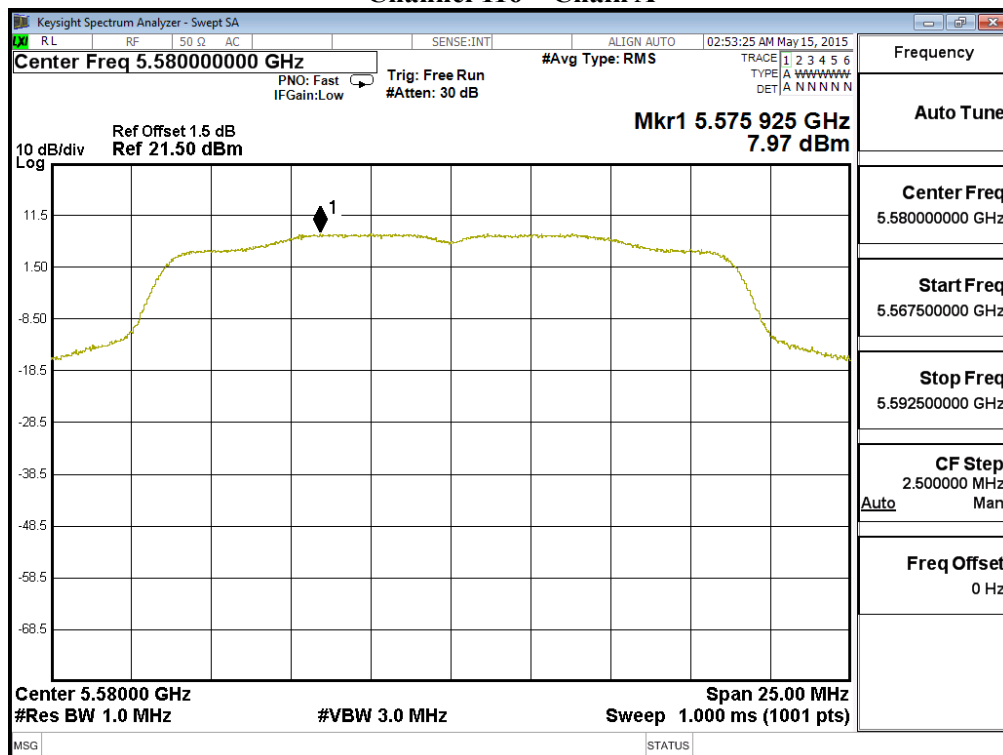
Channel 64 – Chain A



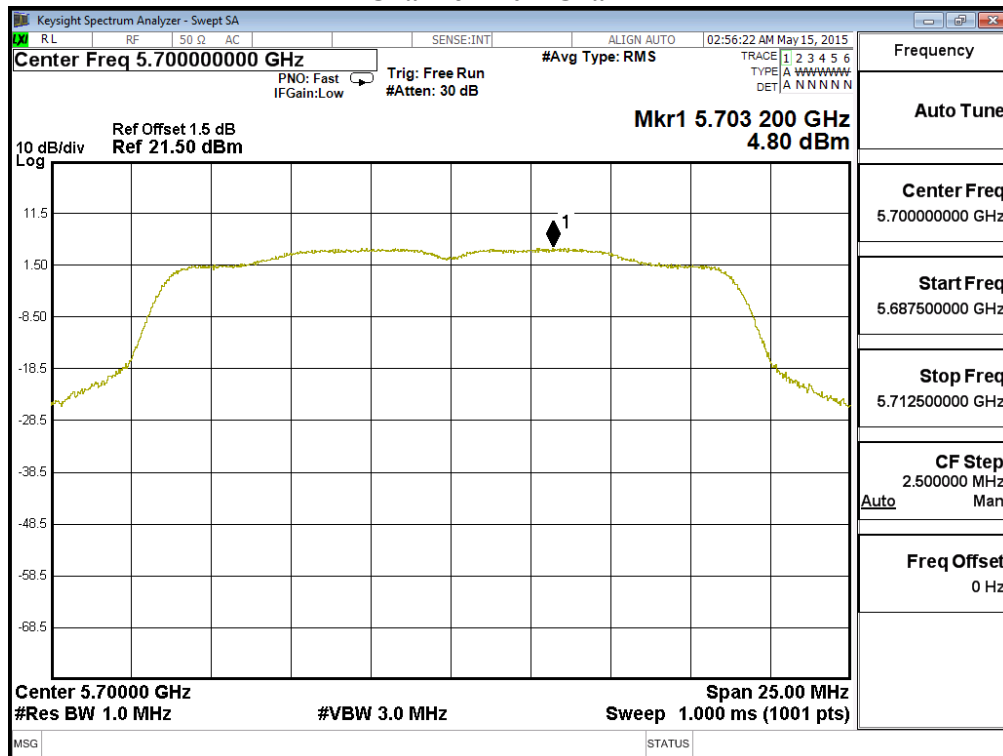
Channel 100 – Chain A



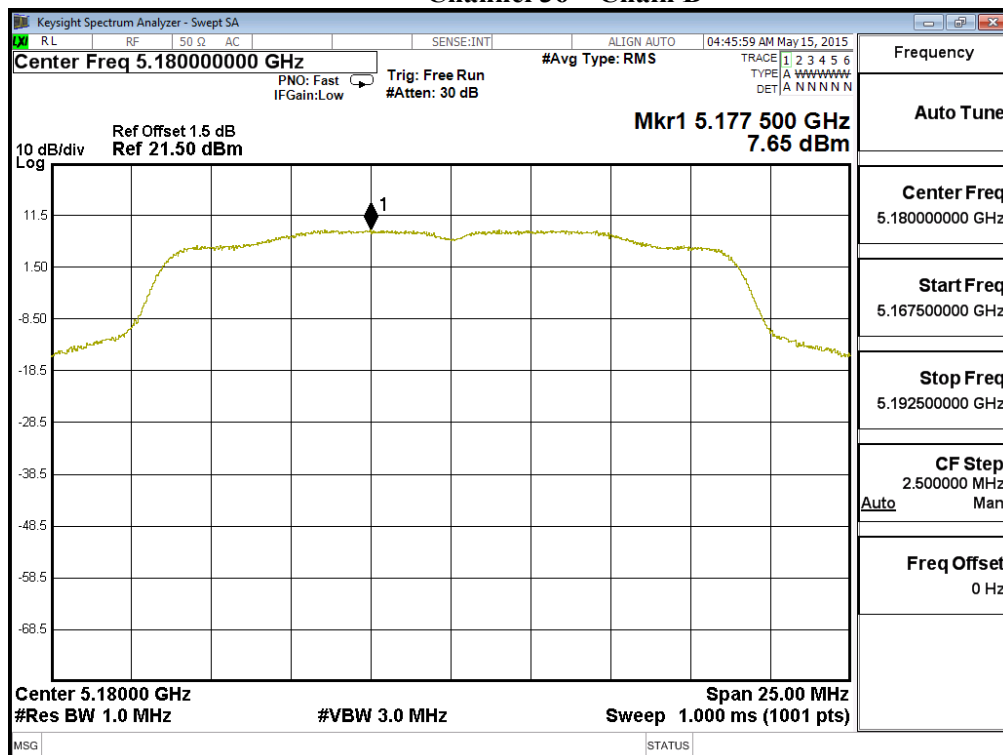
Channel 116 – Chain A



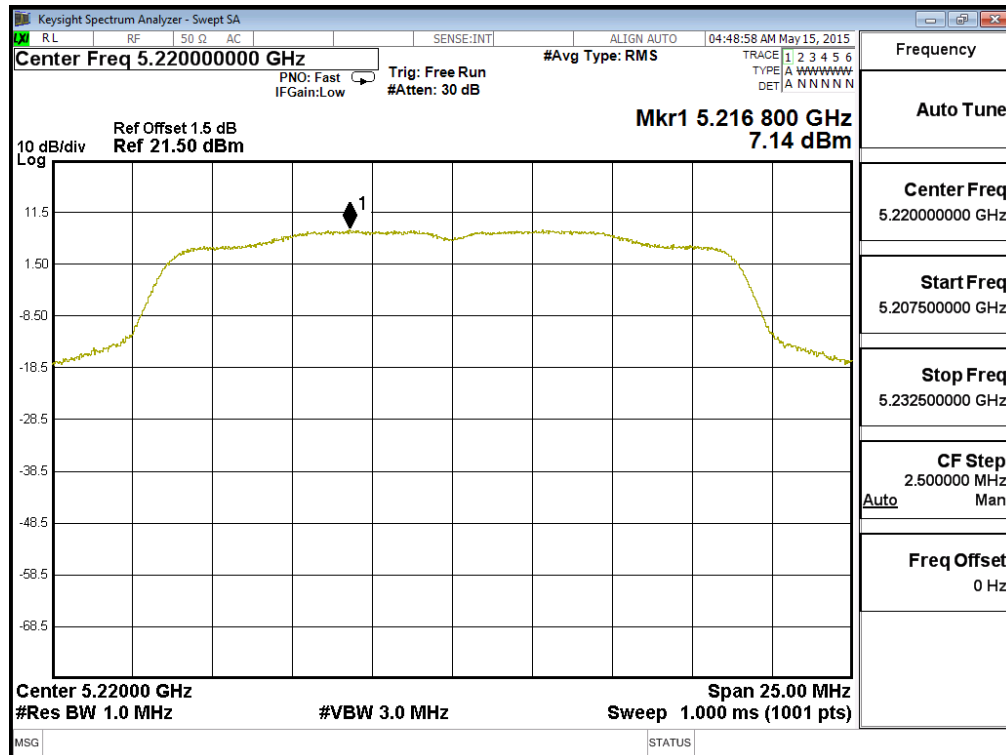
Channel 140 – Chain A



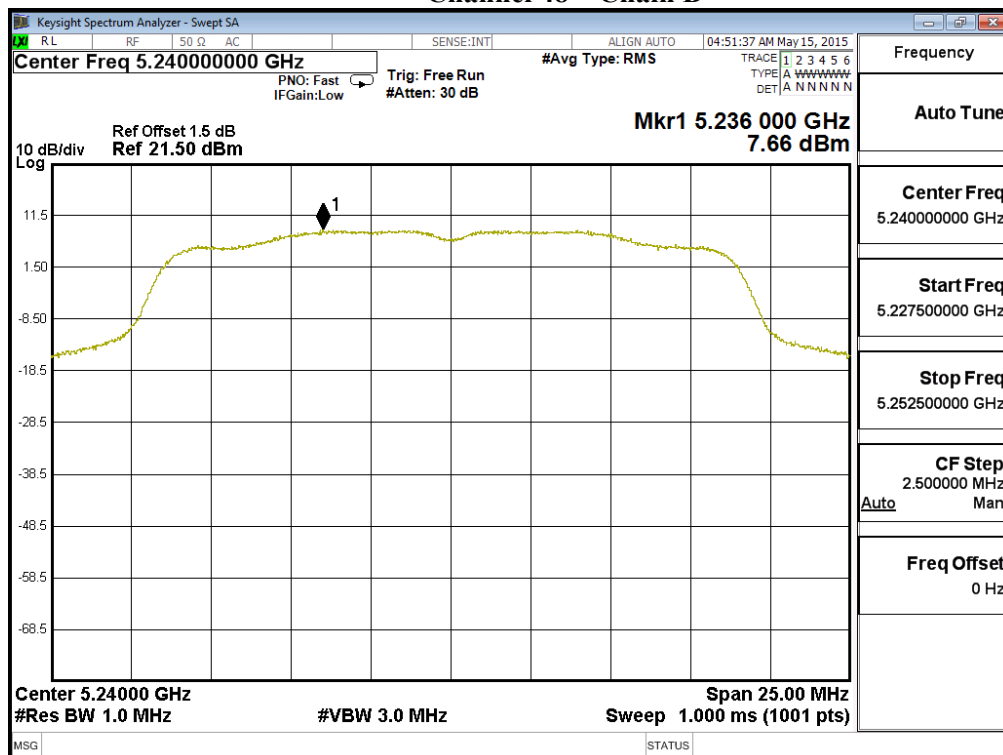
Channel 36 – Chain B



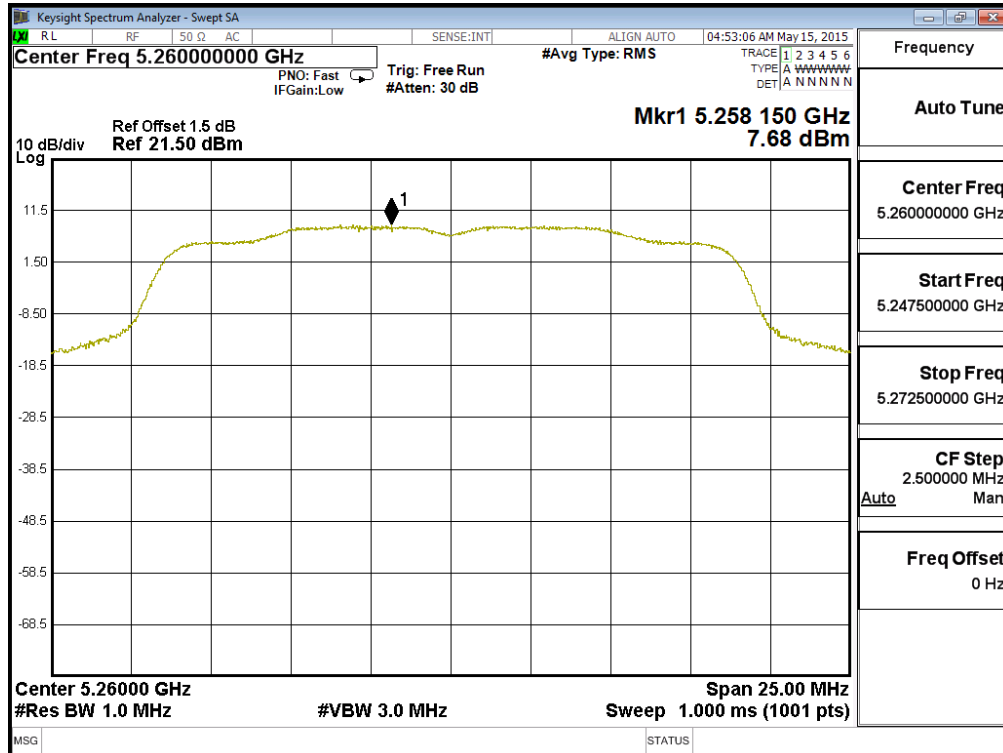
Channel 44 – Chain B



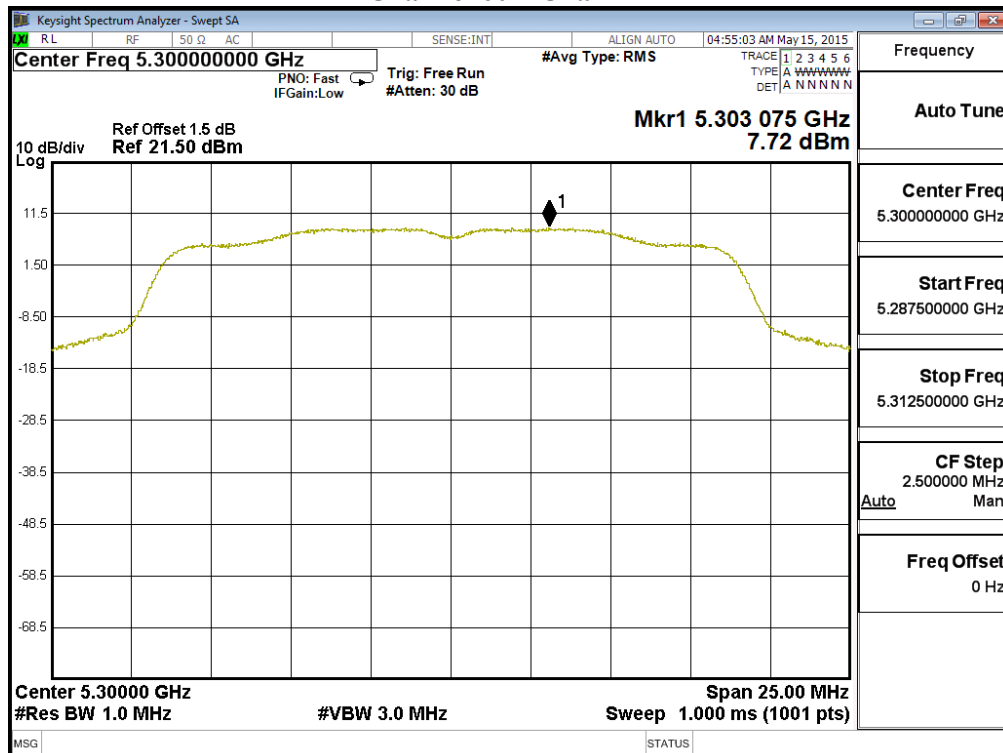
Channel 48 – Chain B



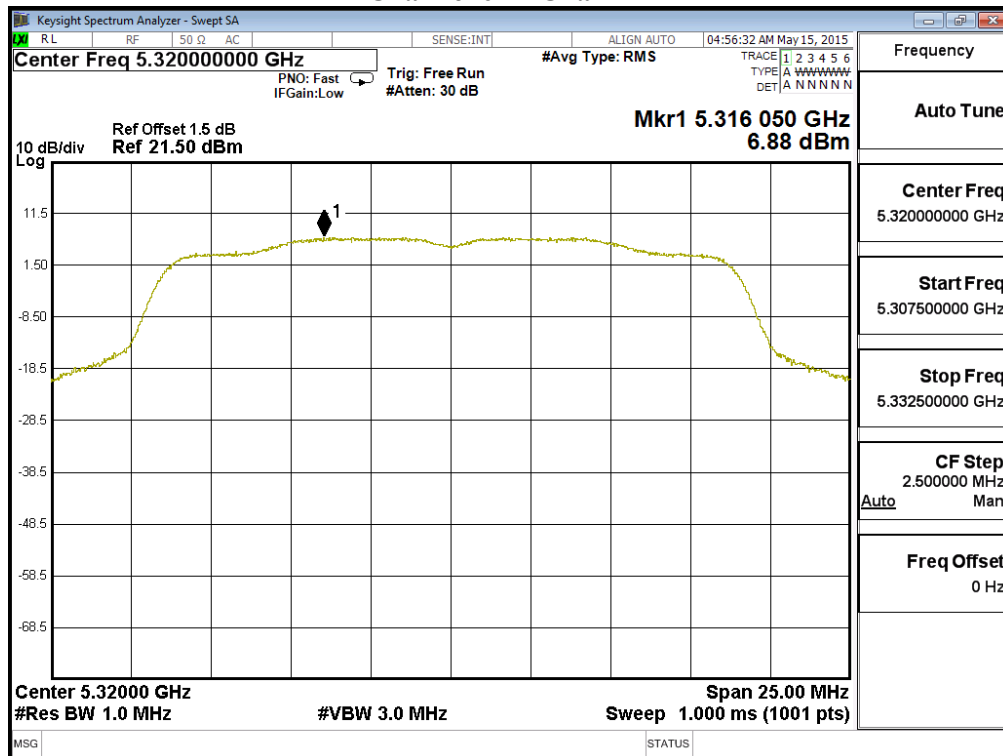
Channel 52 – Chain B



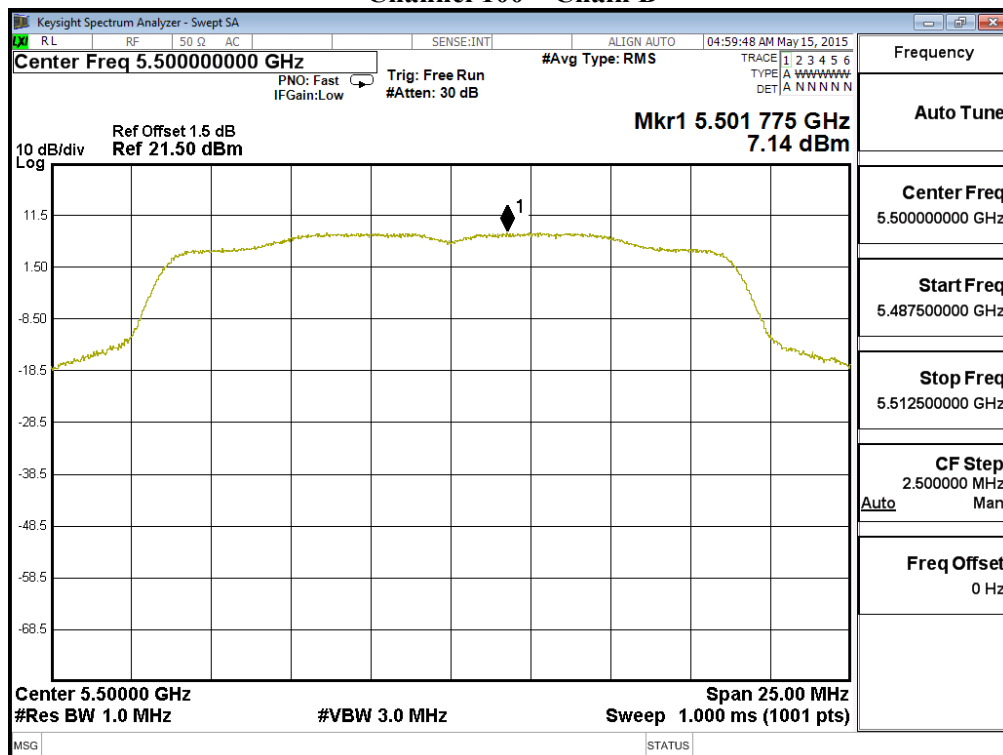
Channel 60 – Chain B



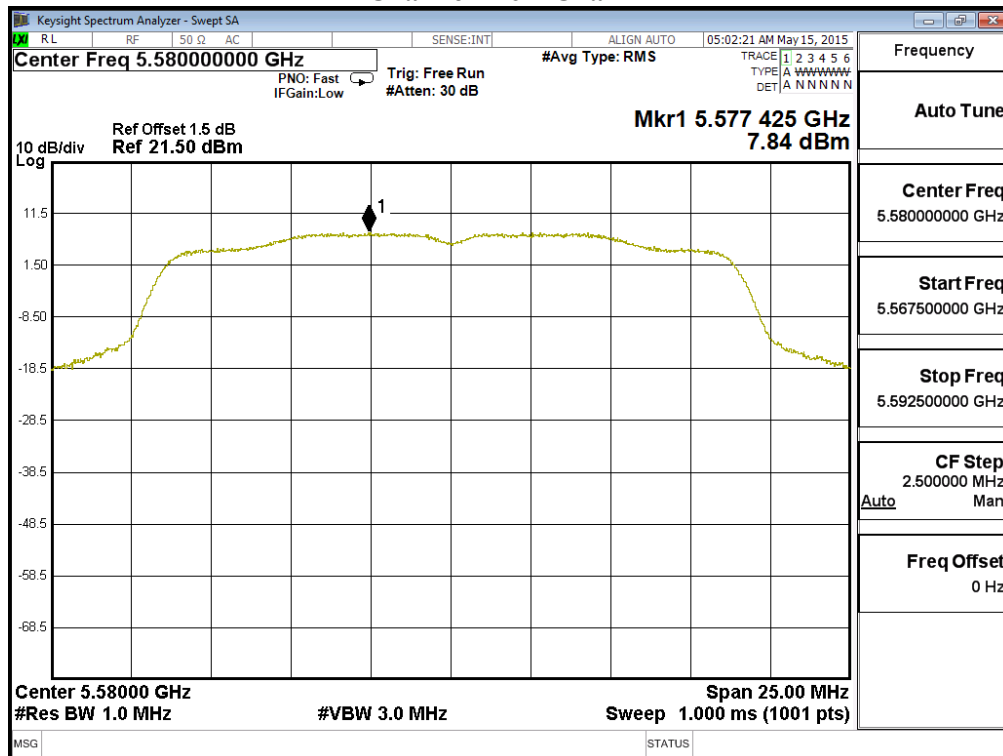
Channel 64 – Chain B



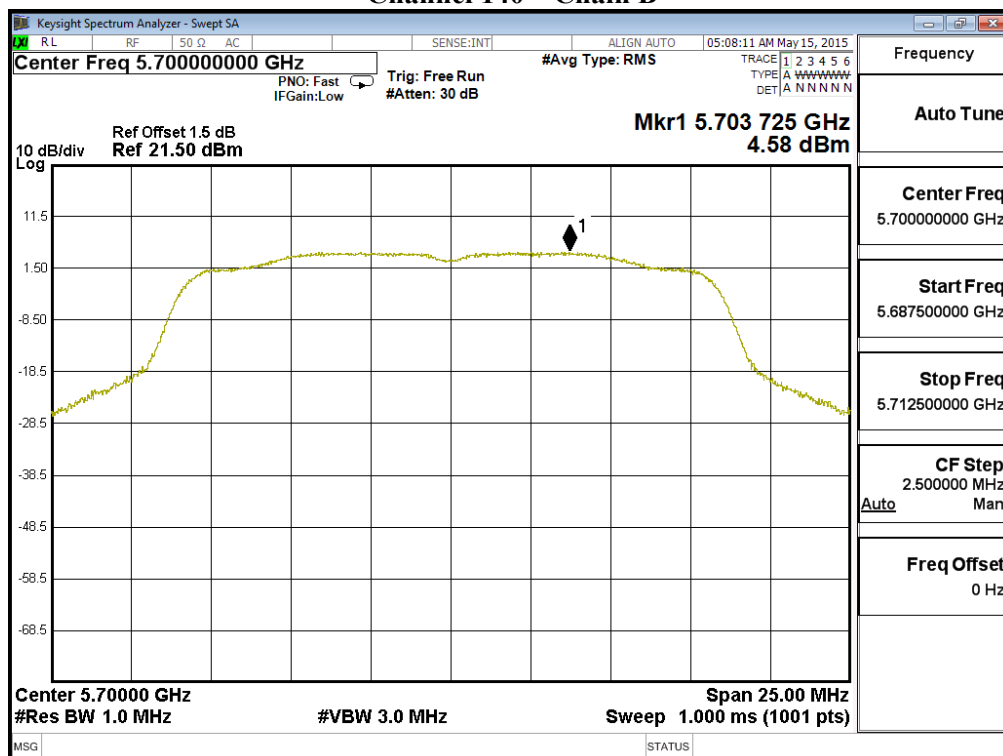
Channel 100 – Chain B



Channel 116 – Chain B



Channel 140 – Chain B



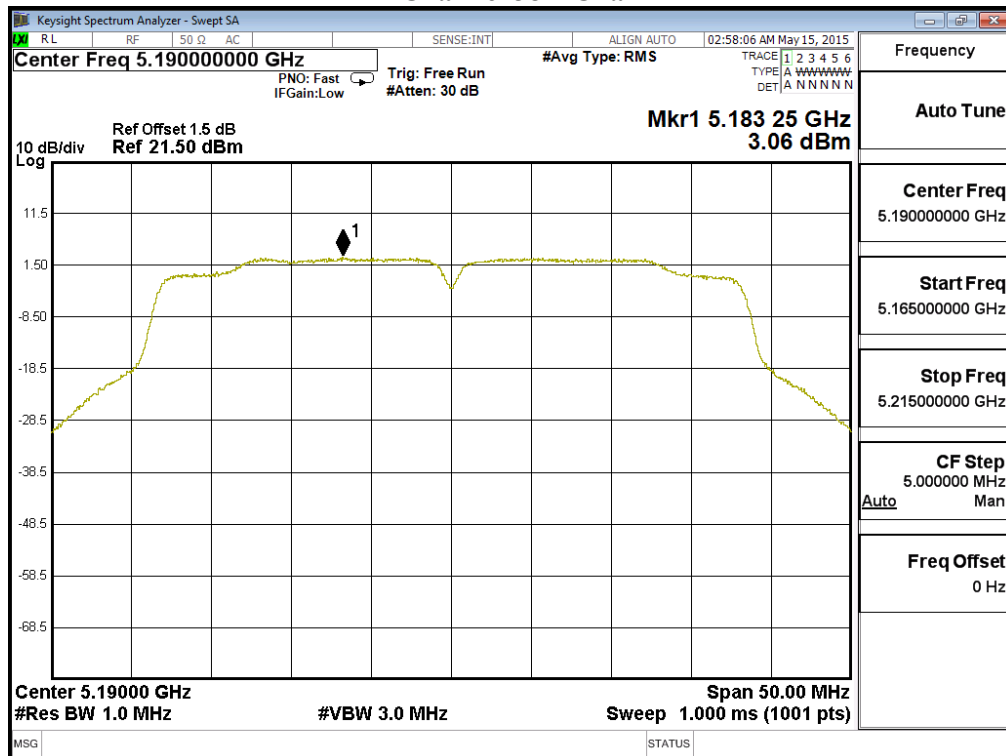
Product : Intel® Dual Band Wireless-AC 8260
Test Item : Peak Power Spectral Density
Test Site : No.3 OATS
Test Mode : Mode 3 MIMO: Transmit (802.11n-40BW 30Mbps)

Channel Number	Frequency (MHz)	Chain	PPSD (dBm)	Duty Factor (dB)	Total PPSD (dBm)	Required Limit (dBm)	Result
38	5190	A	3.057	0.150	6.217	<11	Pass
		B	3.259	0.150	6.419	<11	Pass
46	5230	A	4.564	0.150	7.724	<11	Pass
		B	4.788	0.150	7.948	<11	Pass
54	5270	A	4.462	0.150	7.622	<11	Pass
		B	4.516	0.150	7.676	<11	Pass
62	5310	A	1.479	0.150	4.639	<11	Pass
		B	1.186	0.150	4.346	<11	Pass
102	5510	A	4.319	0.150	7.479	<11	Pass
		B	4.286	0.150	7.446	<11	Pass
110	5550	A	5.000	0.150	8.160	<11	Pass
		B	4.610	0.150	7.770	<11	Pass
134	5670	A	4.525	0.150	7.685	<11	Pass
		B	4.296	0.150	7.456	<11	Pass

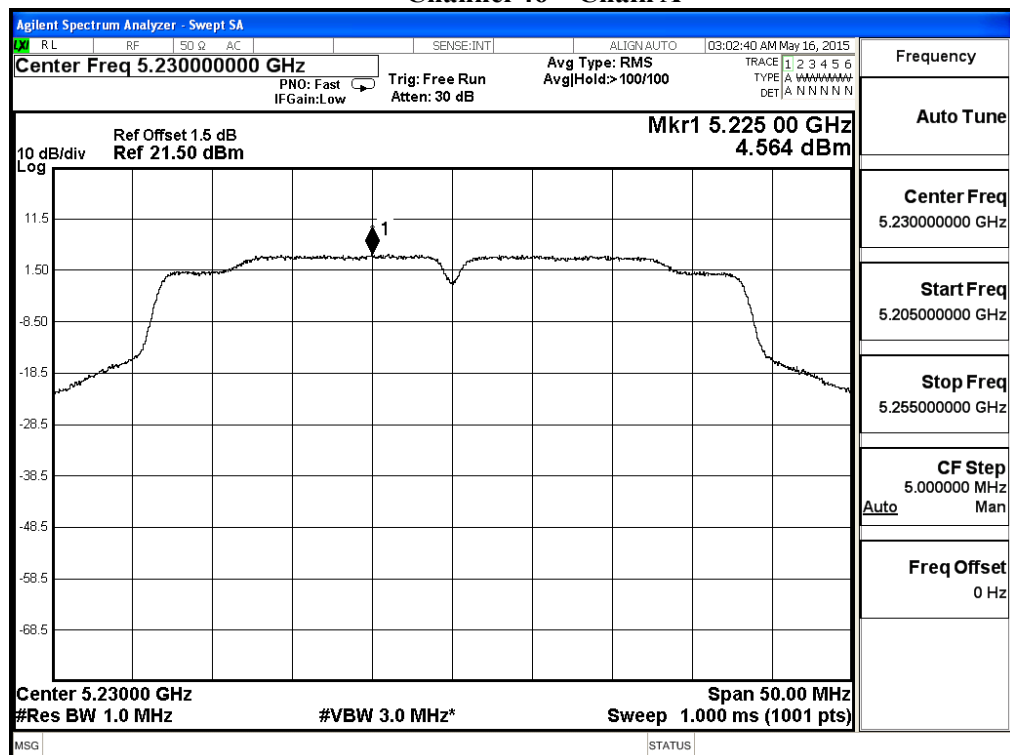
Note:

1. The quantity $10 \cdot \log 2$ (two antennas) is added to the spectrum peak value according to document 662911 D01.
2. Total PPSD = PPSD value + Duty Factor + $10 \cdot \log 2$.

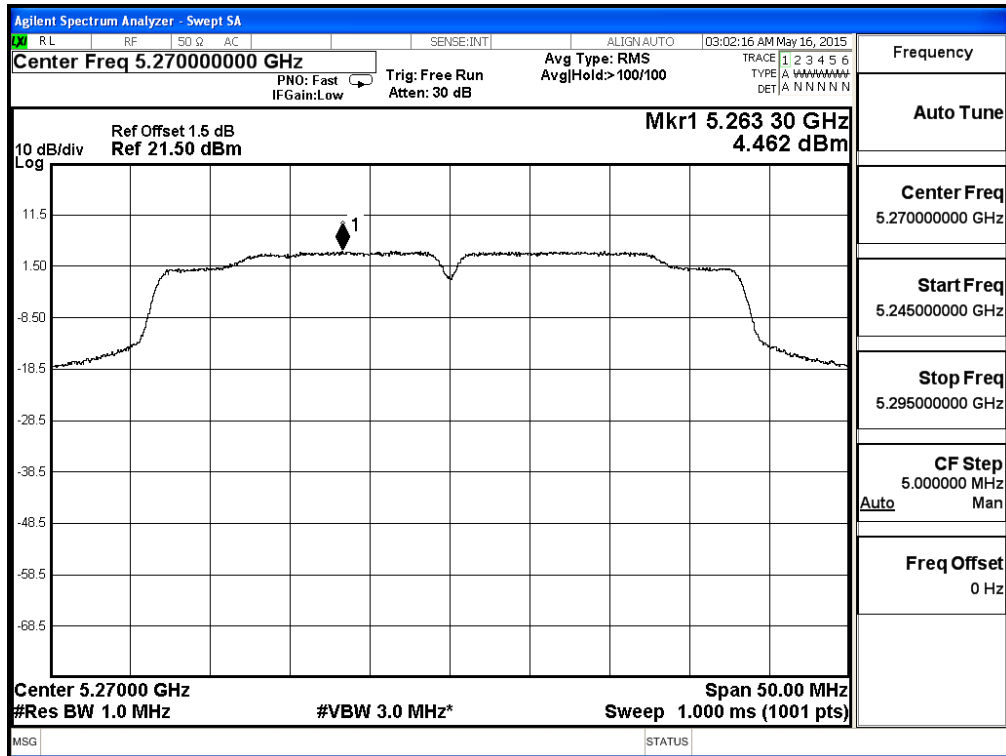
Channel 38 – Chain A



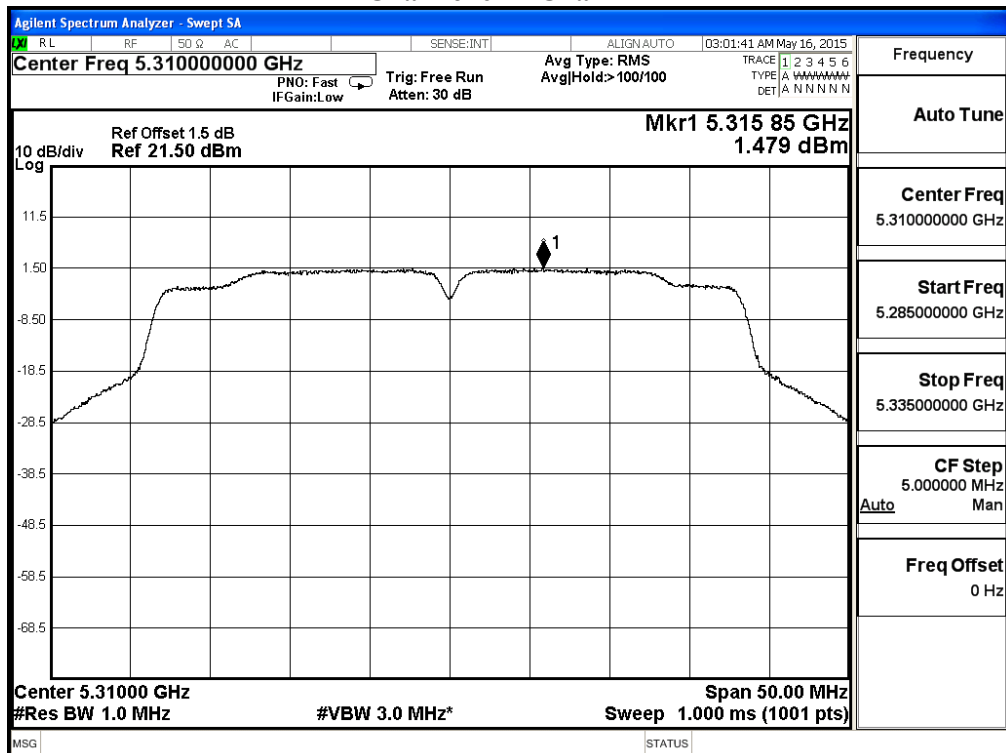
Channel 46 – Chain A



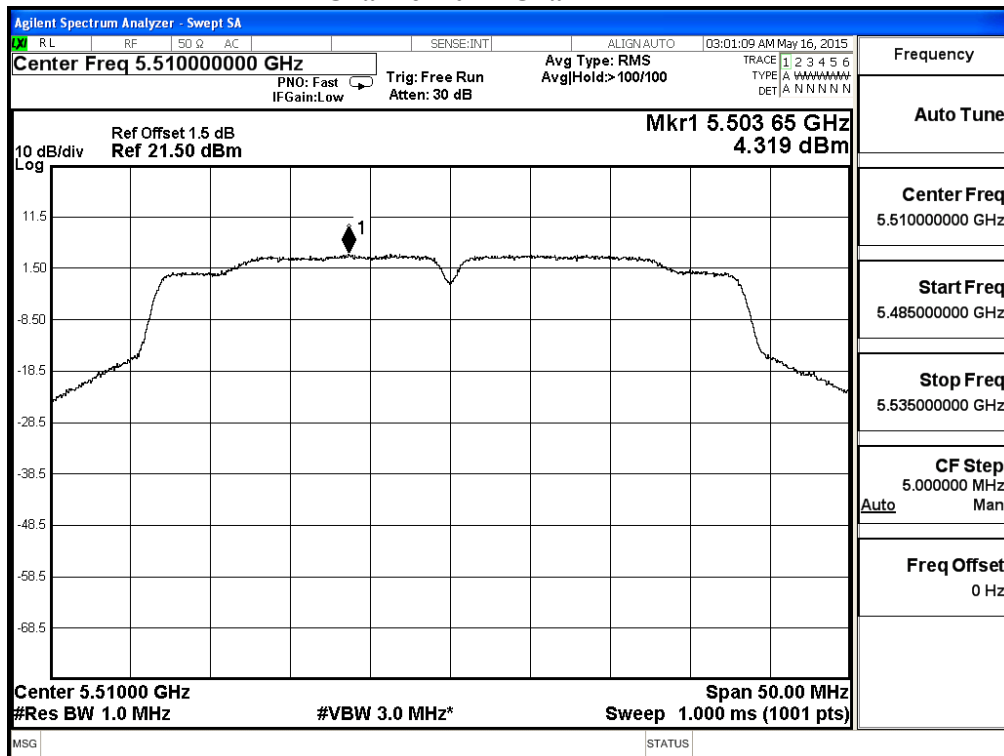
Channel 54 – Chain A



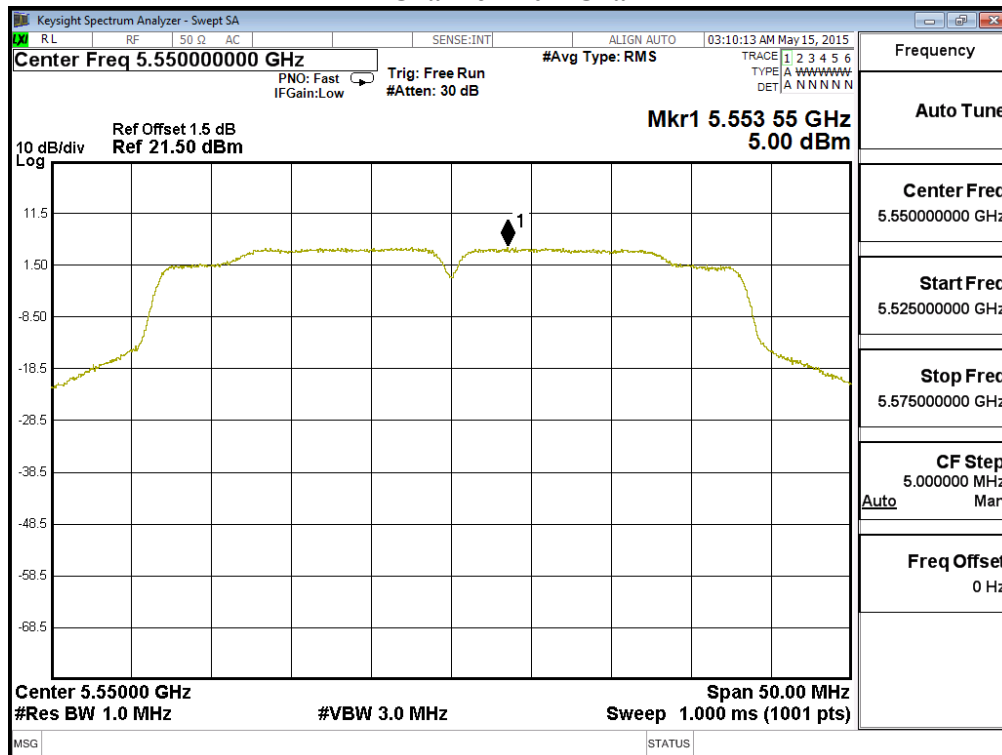
Channel 62 – Chain A



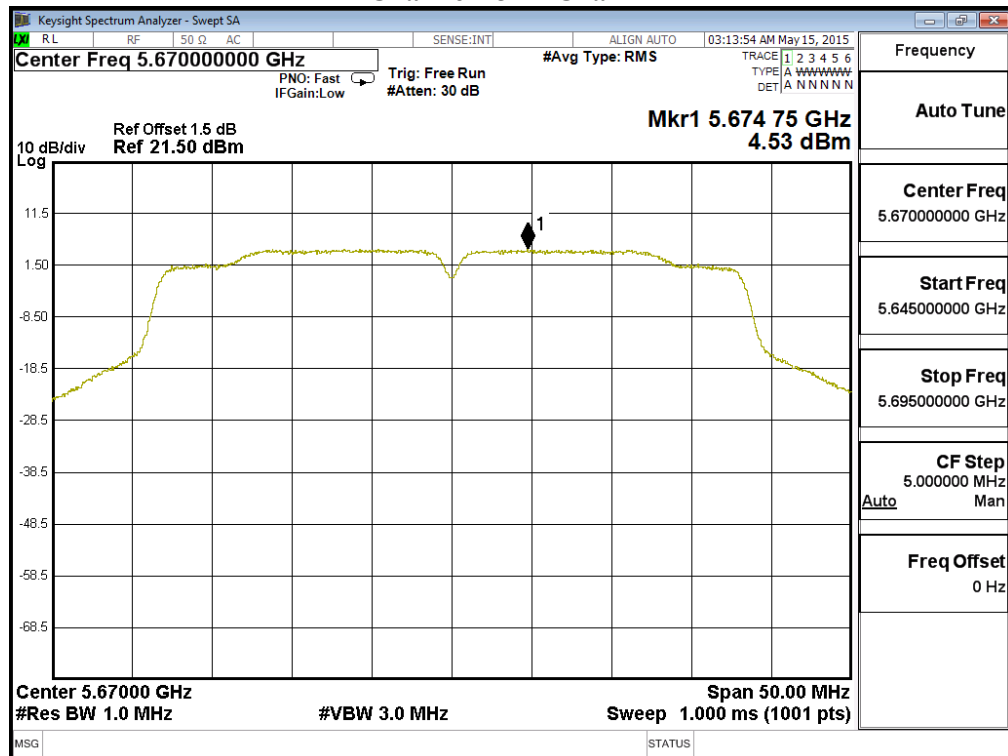
Channel 102 – Chain A



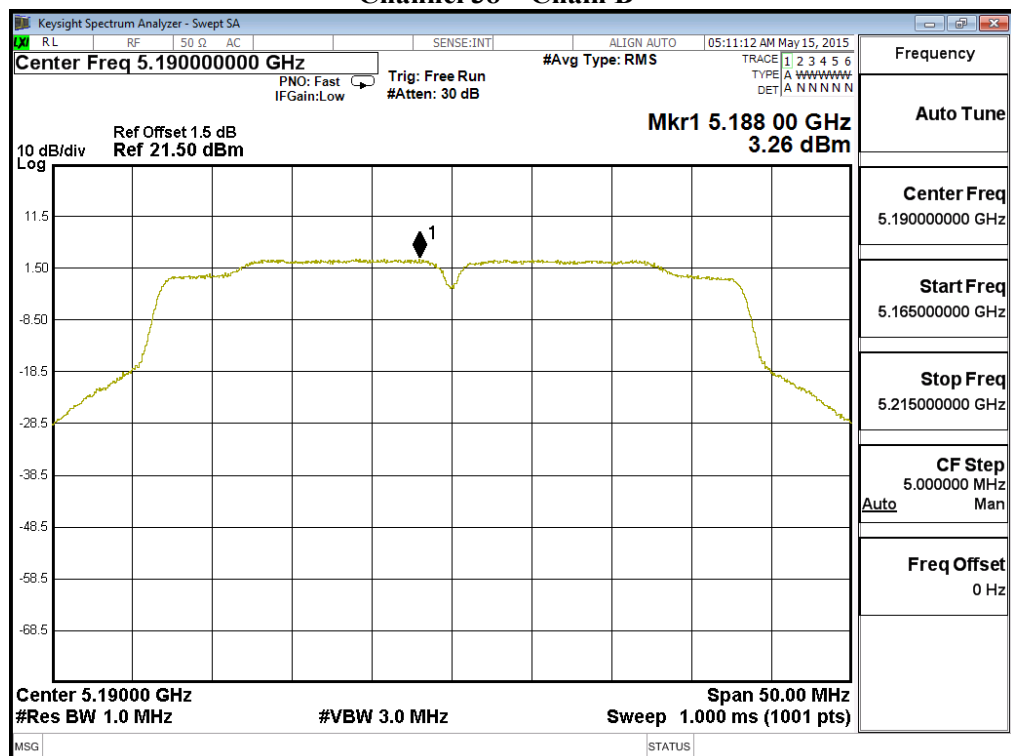
Channel 110 – Chain A



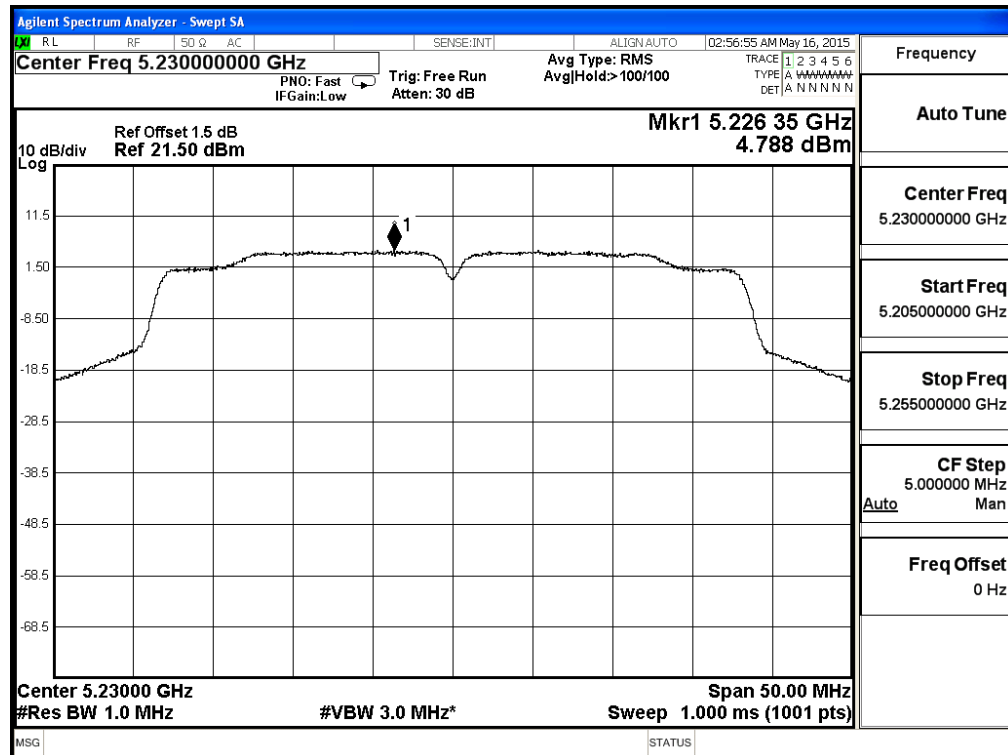
Channel 134 – Chain A



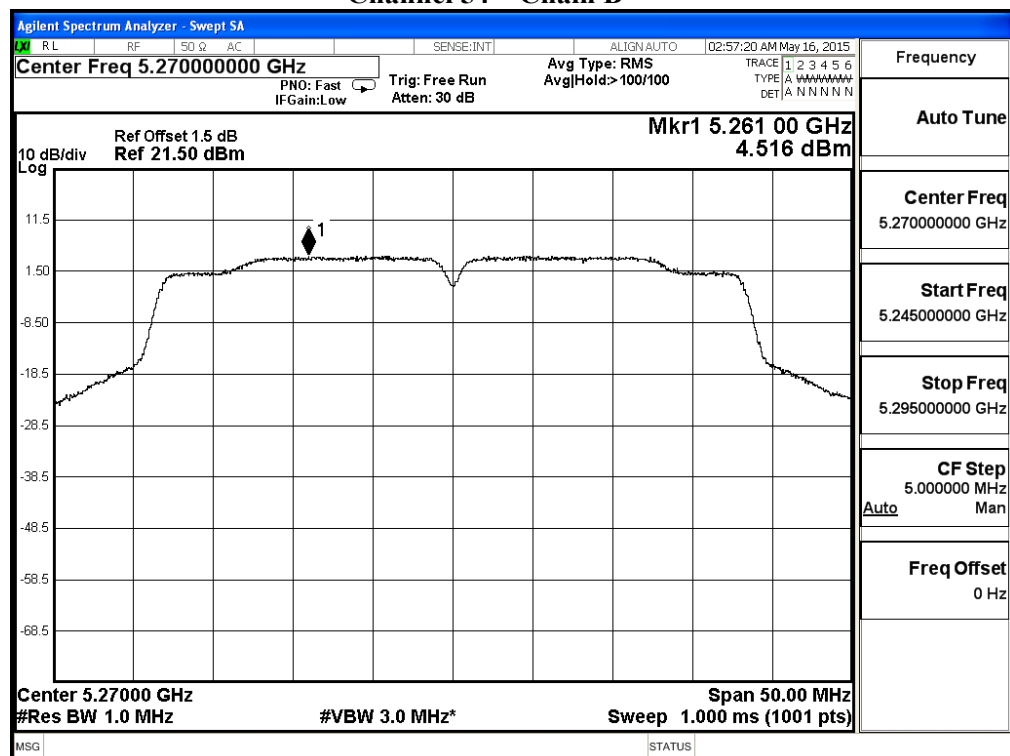
Channel 38 – Chain B



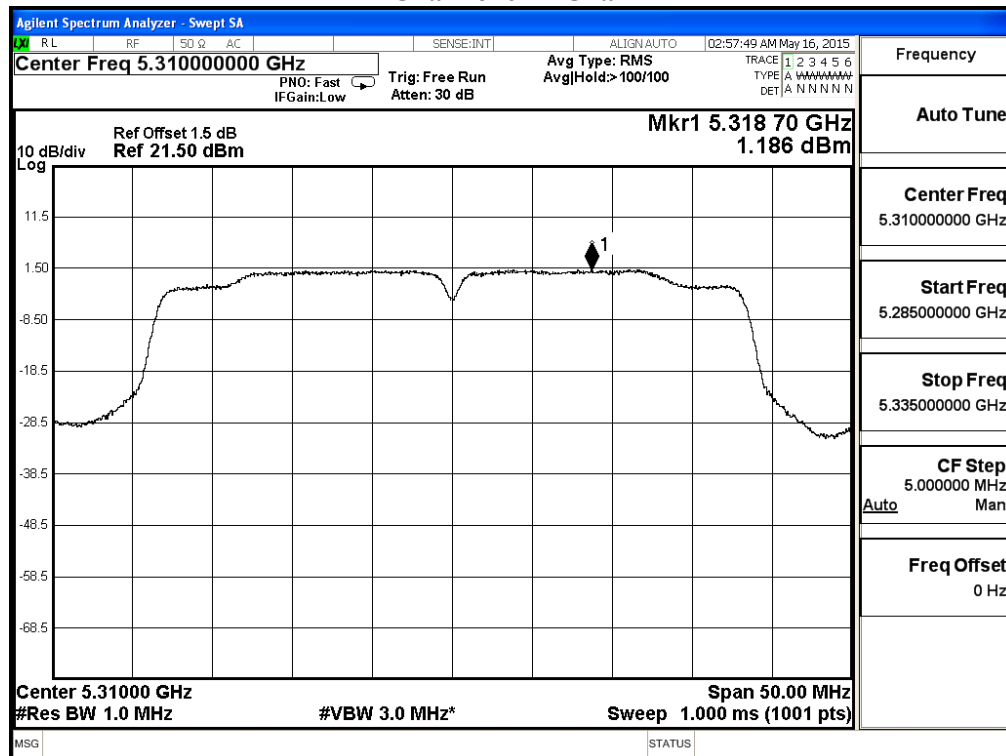
Channel 46 – Chain B



Channel 54 – Chain B



Channel 62 – Chain B



Channel 102 – Chain B

