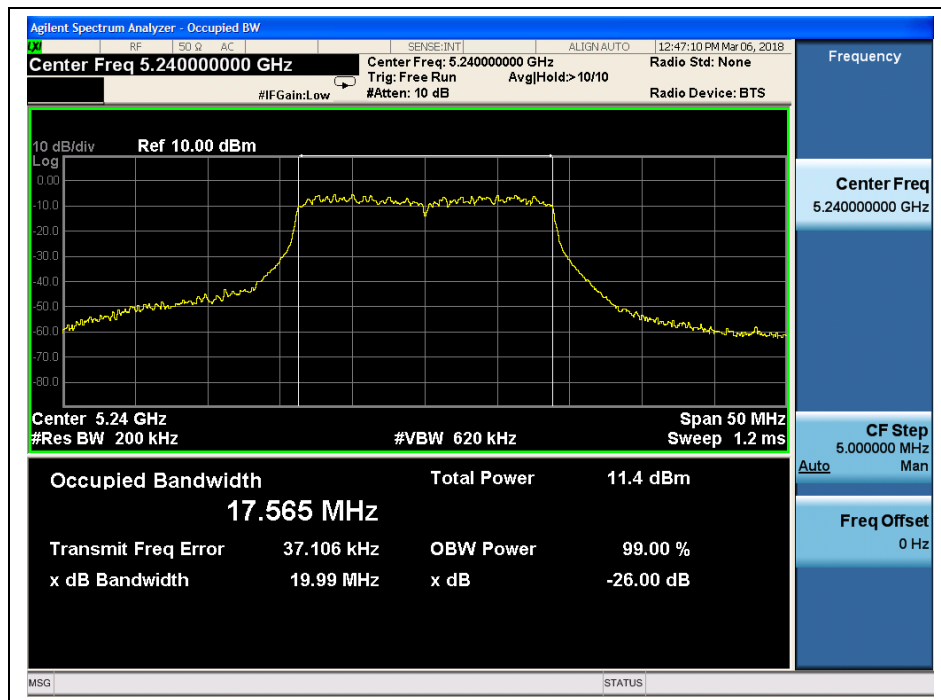
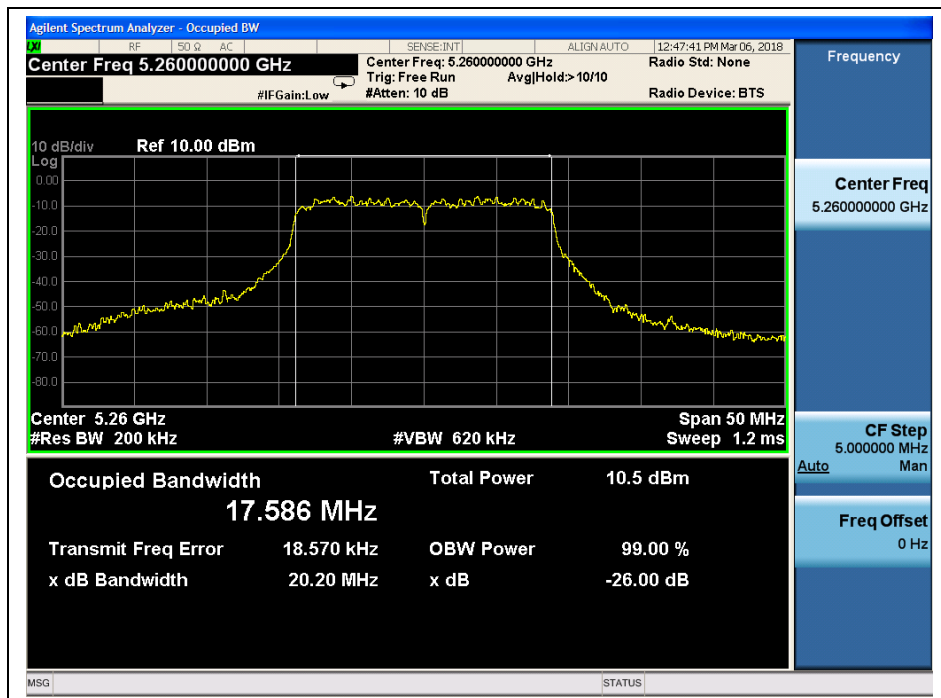
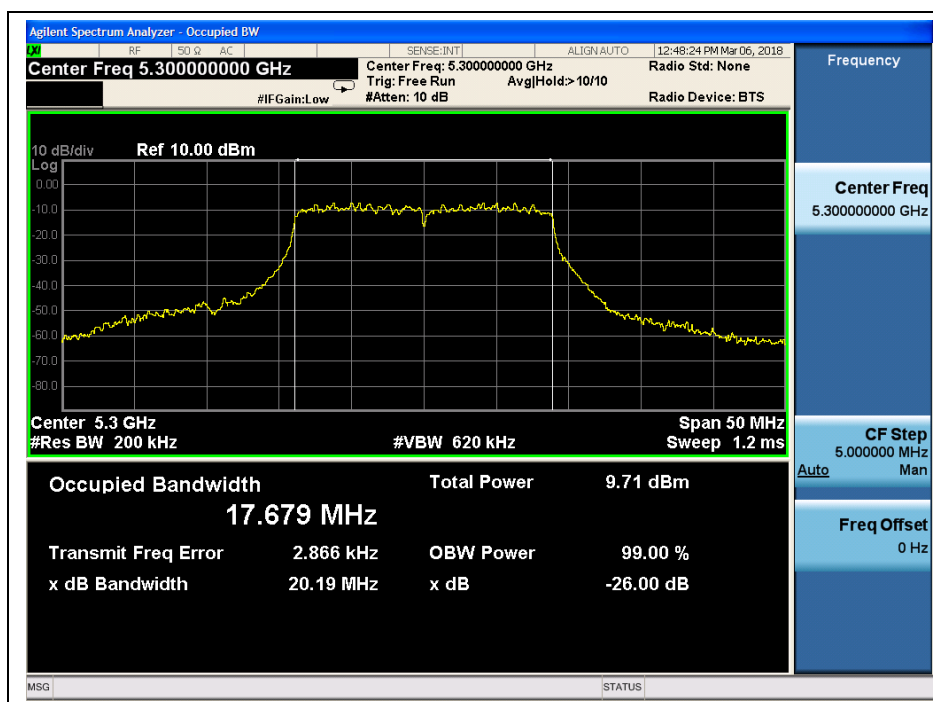




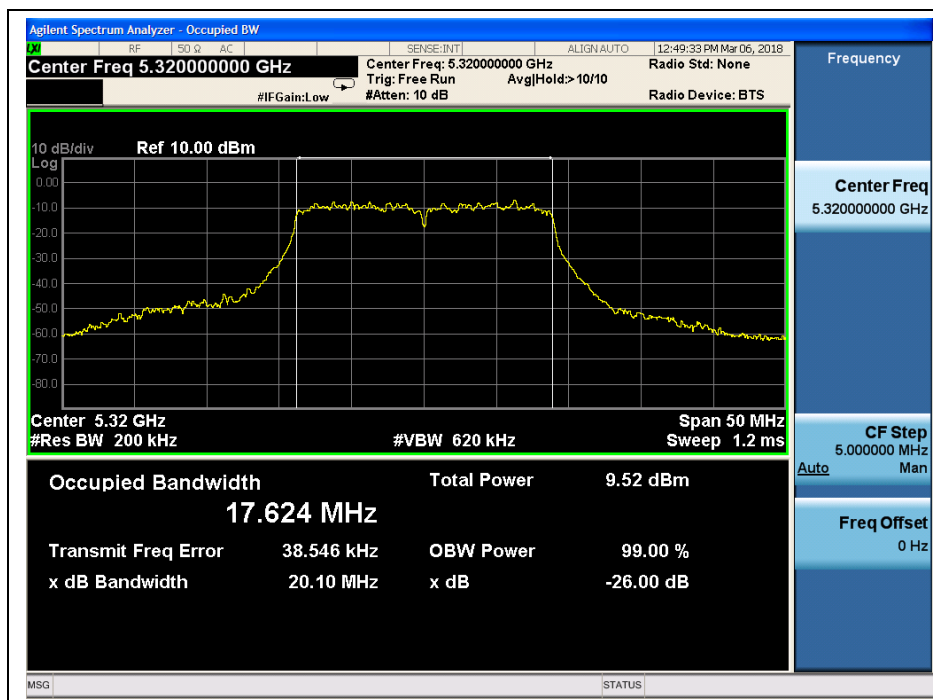
(Channel 48, 5240MHz, 802.11 ac (VHT20), ANT J4)



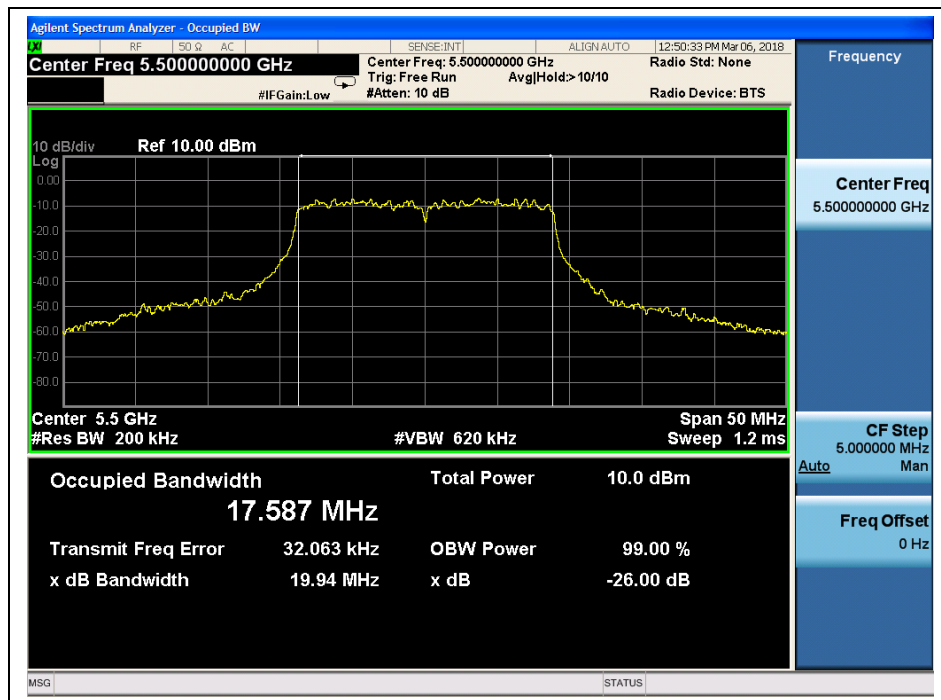
(Channel 52, 5260MHz, 802.11ac (VHT20), ANT J4)



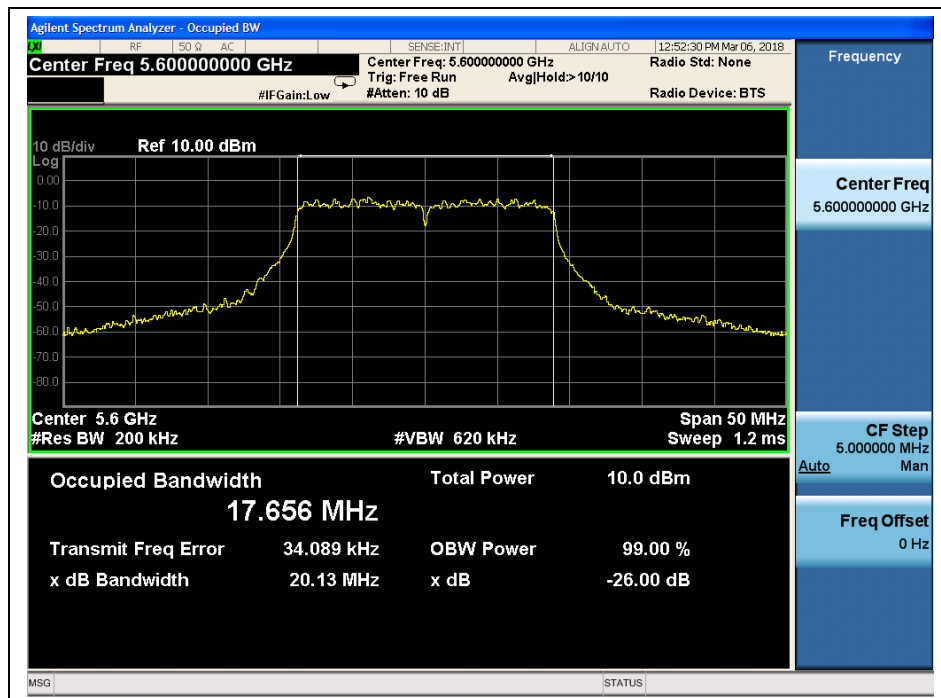
(Channel 60, 5300 MHz, 802.11ac (VHT20), ANT J4)



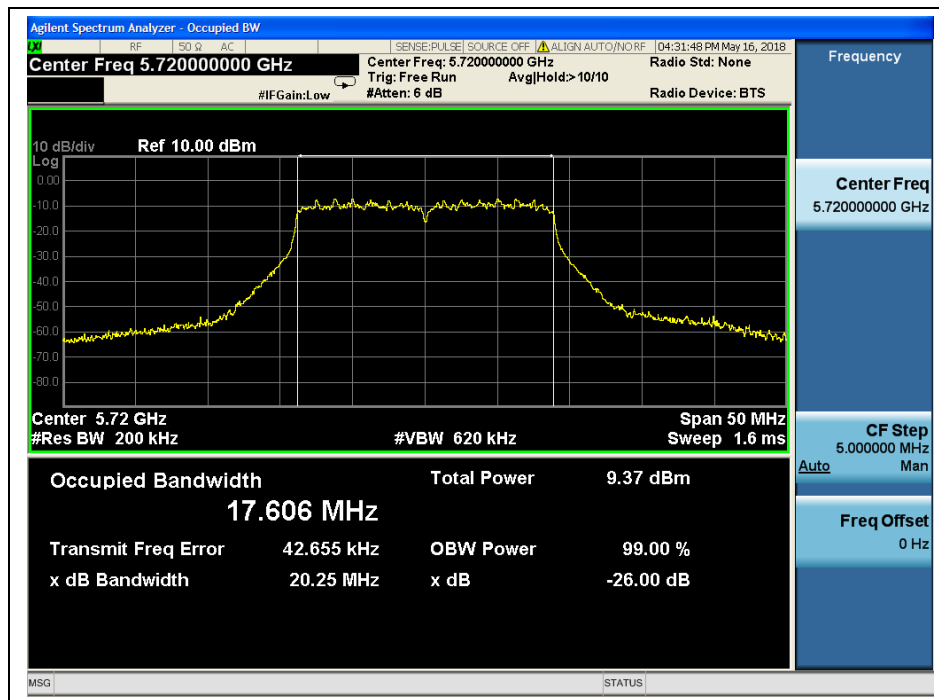
(Channel 64, 5320MHz, 802.11 ac (VHT20), ANT J4)



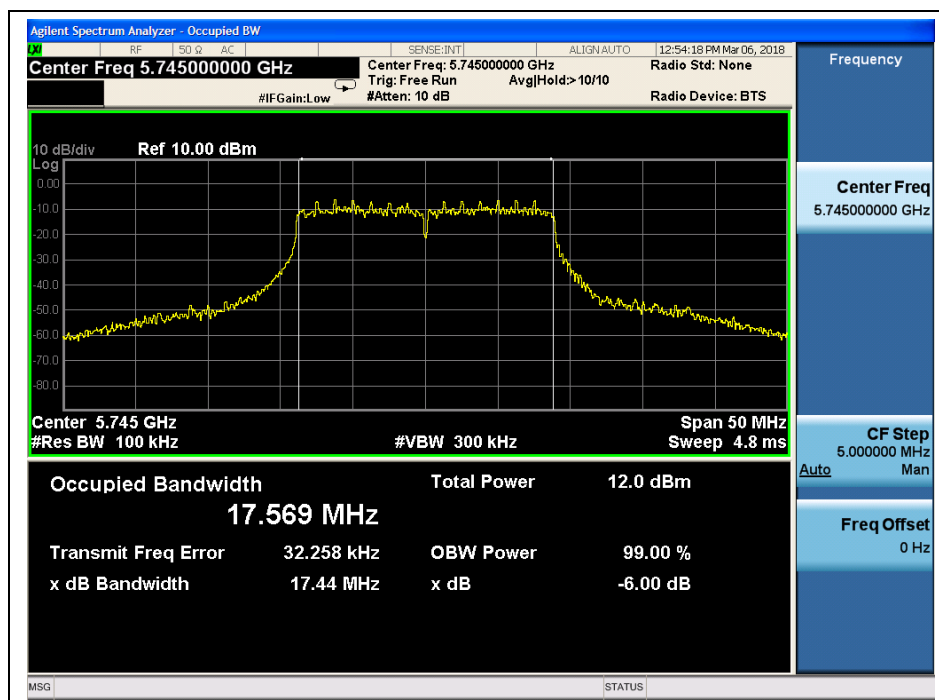
(Channel 100, 5500MHz, 802.11ac (VHT20), ANT J4)



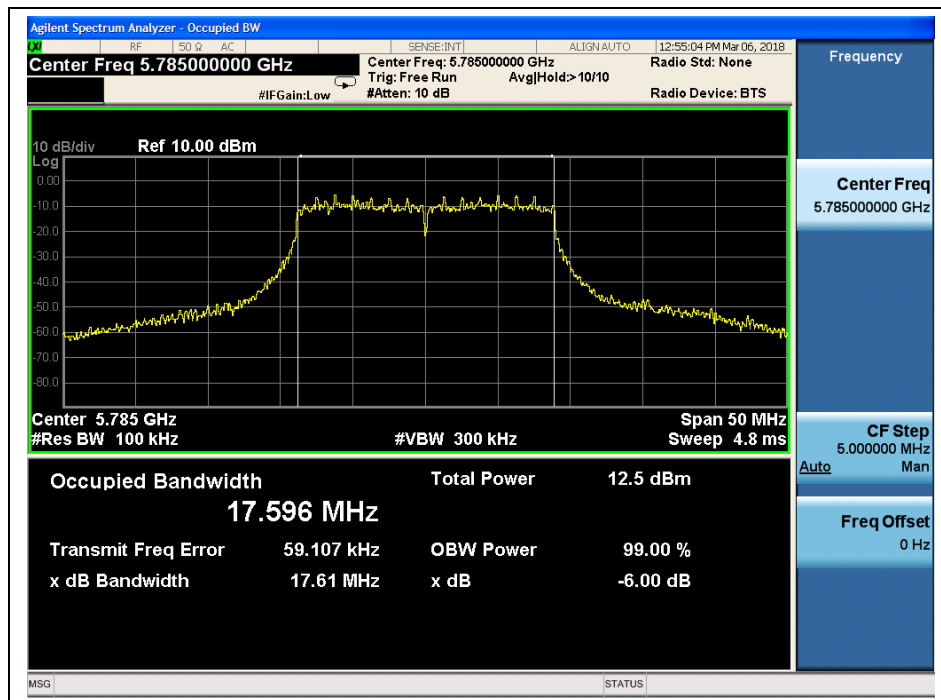
(Channel 120, 5600 MHz, 802.11ac (VHT20), ANT J4)



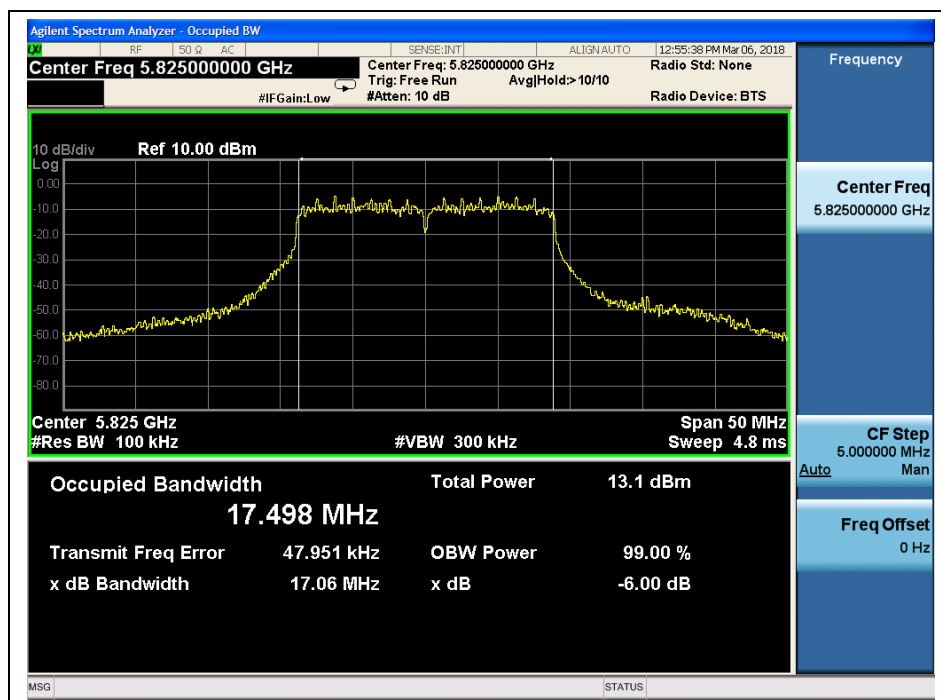
(Channel 144, 5720MHz, 802.11 ac (VHT20), ANT J4)



(Channel 149, 5745MHz, 802.11 ac (VHT20), ANT J4)



(Channel 157, 5785MHz, 802.11 ac (VHT20), ANT J4)



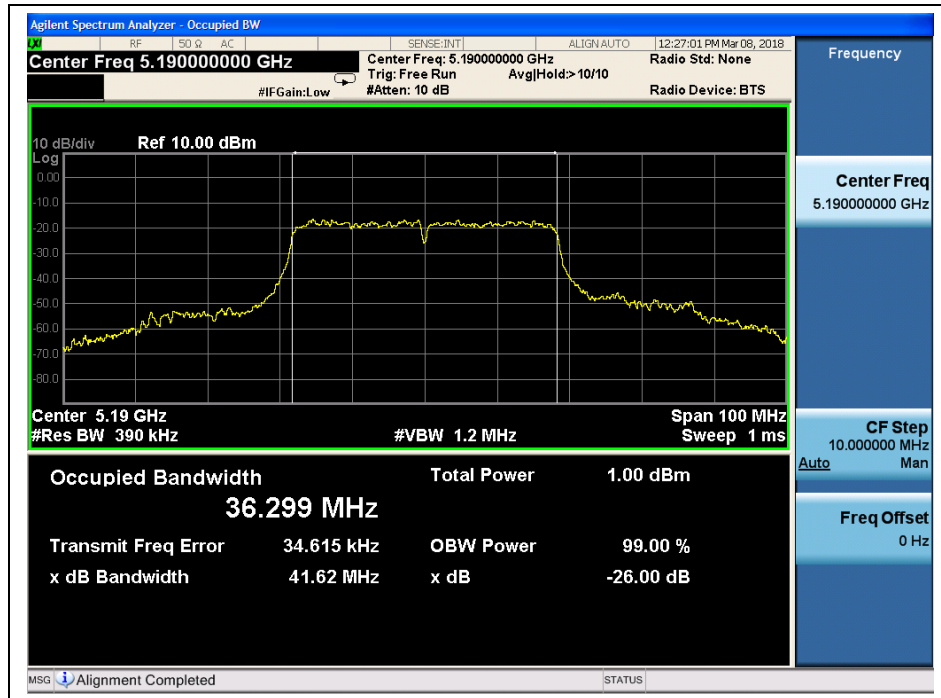
(Channel 165, 5825MHz, 802.11 ac (VHT20), ANT J4)

**802.11ac (VHT40) Test mode****A. Test Verdict:**

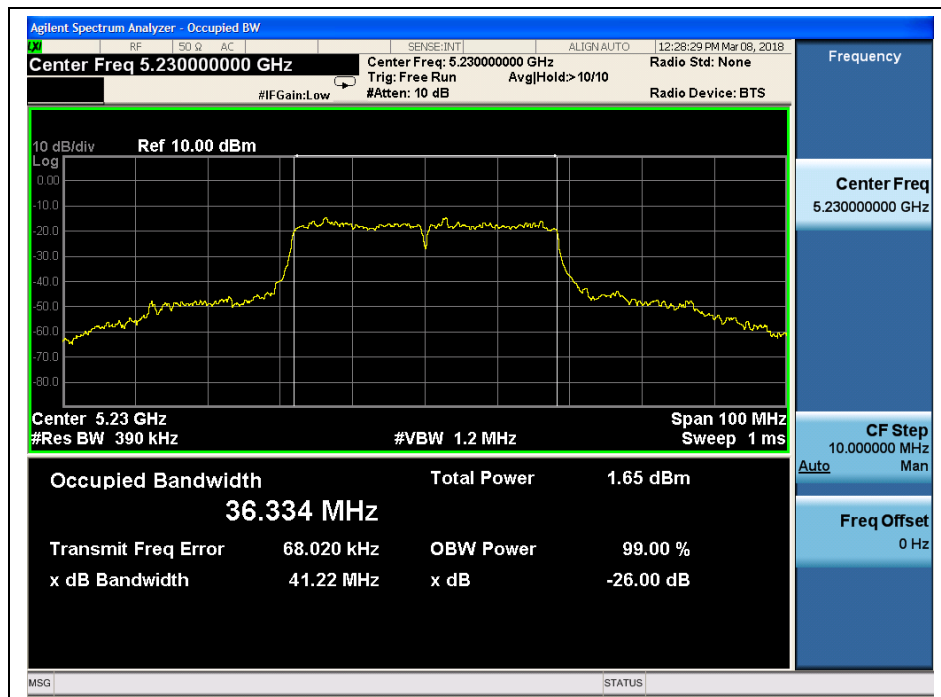
Channel	Frequency (MHz)	ANT J3 26 dB Bandwidth (MHz)	ANT J4 26 dB Bandwidth (MHz)
38	5190	41.62	41.66
46	5230	41.22	40.87
54	5270	40.63	40.45
62	5310	41.13	41.48
102	5510	41.39	41.30
126	5630	40.32	41.21
142	5710	41.43	40.41
Channel	Frequency (MHz)	ANT J3 6dB Bandwidth (MHz)	ANT J4 6dB Bandwidth (MHz)
151	5755	36.06	36.08
159	5795	35.77	36.07



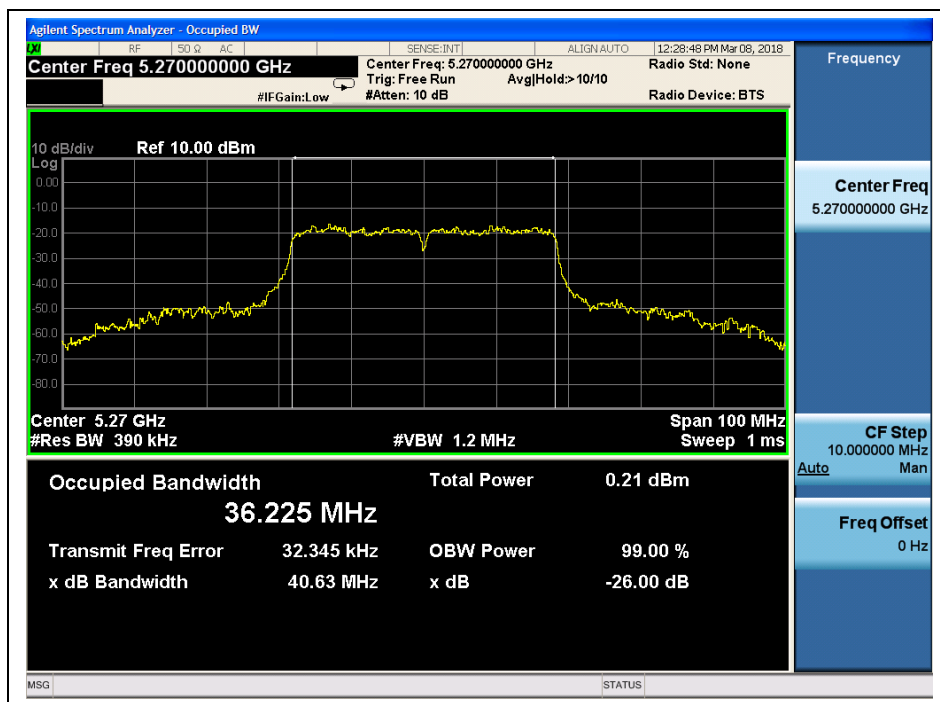
B. Test Plots



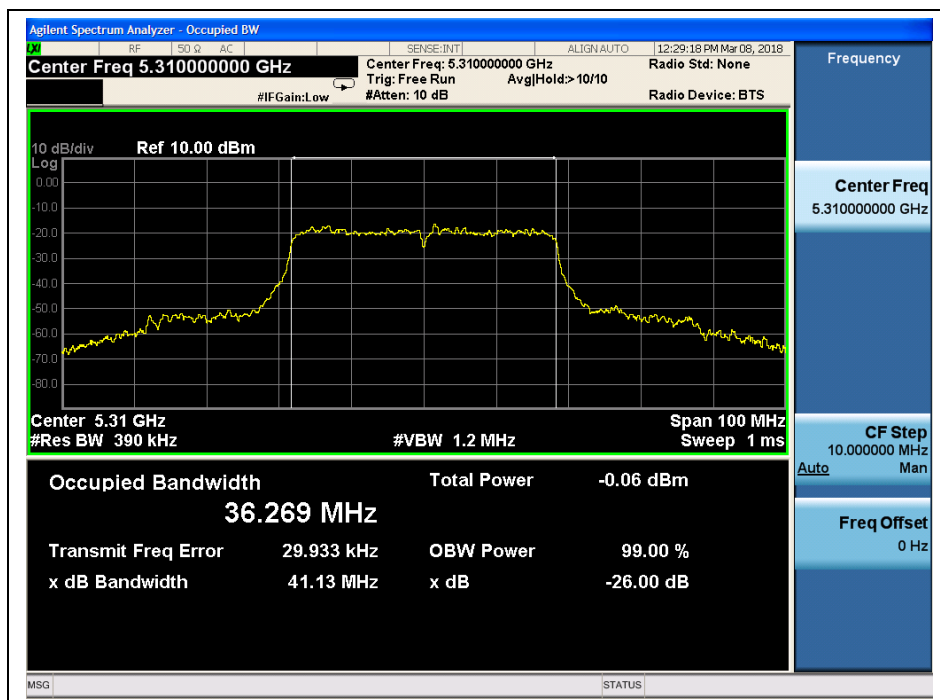
(Channel 38, 5190MHz, 802.11ac (VHT40), ANT J3)



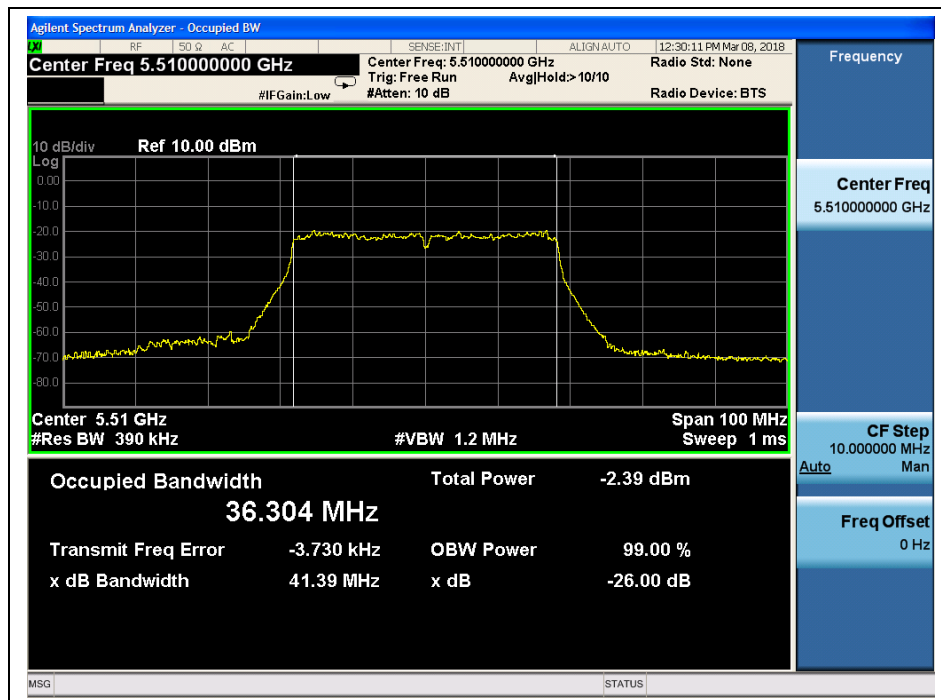
(Channel 46, 5230 MHz, 802.11ac (VHT40), ANT J3)



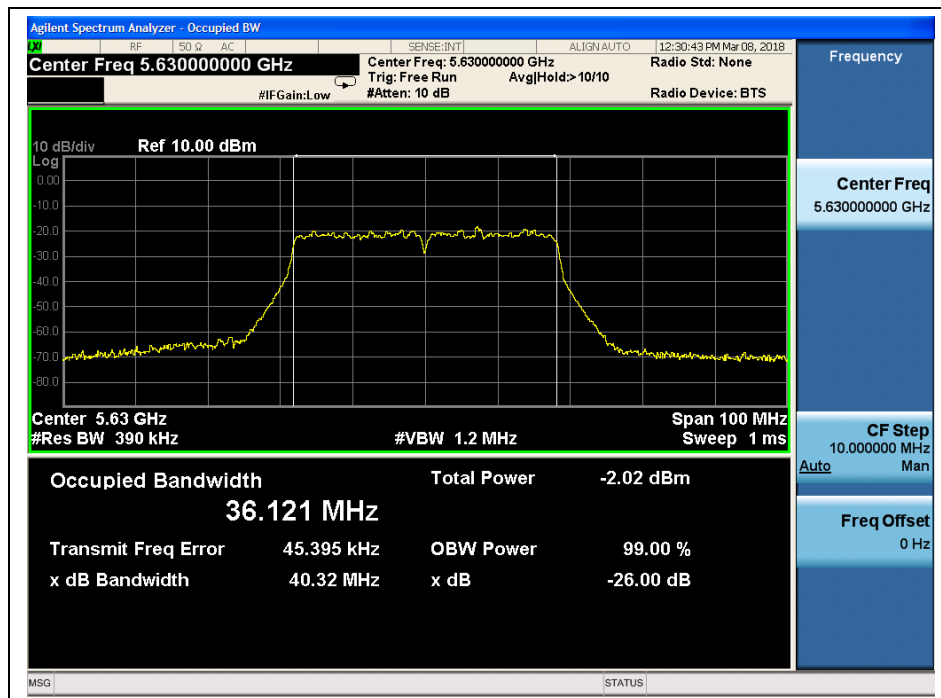
(Channel 54, 5270MHz, 802.11ac (VHT40), ANT J3)



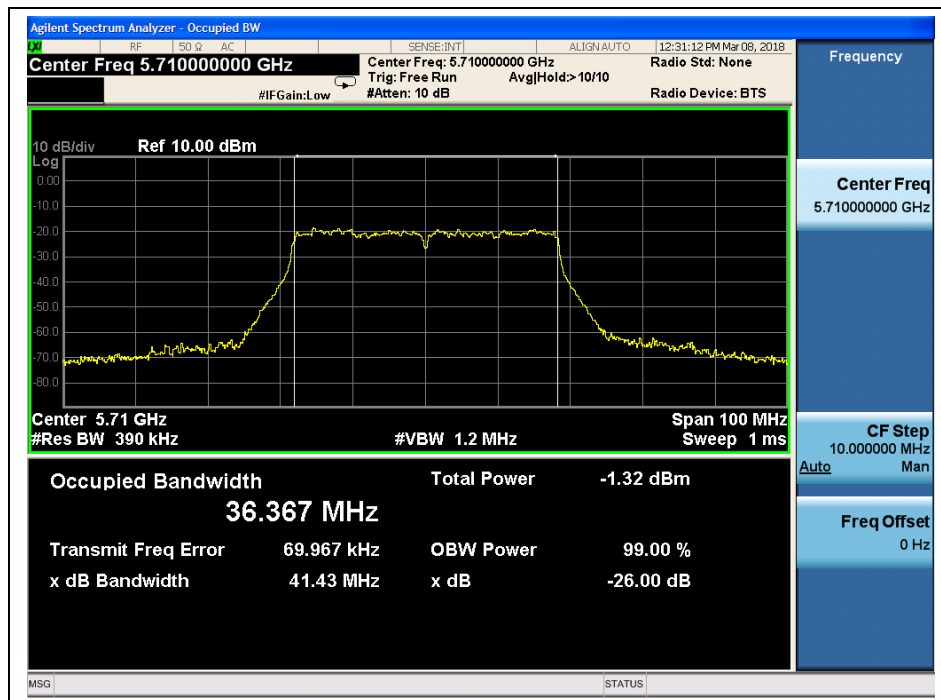
(Channel 62, 5310 MHz, 802.11ac (VHT40), ANT J3)



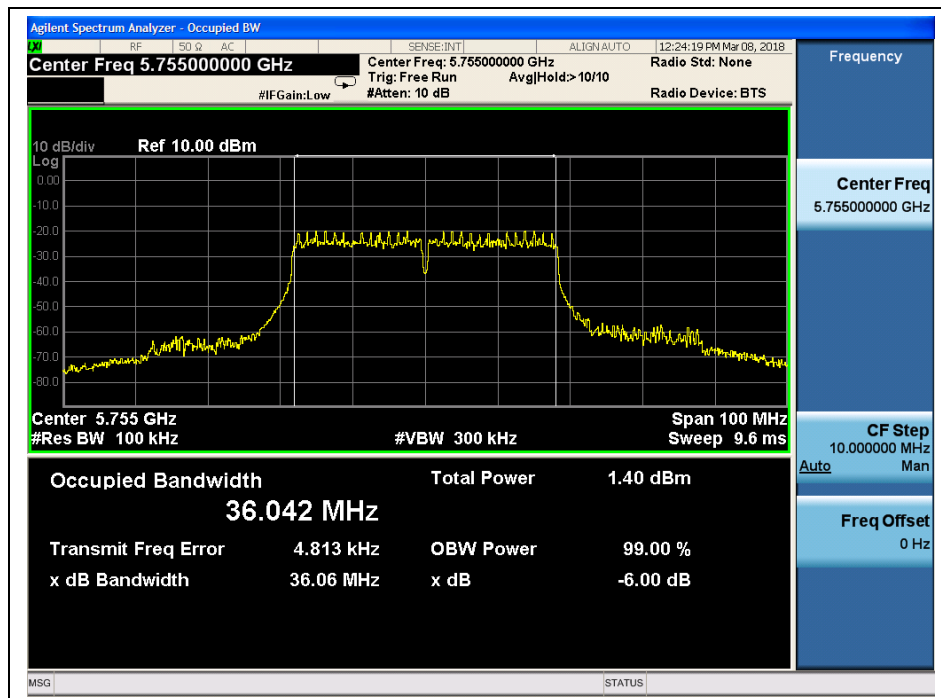
(Channel 102, 5510 MHz, 802.11ac (VHT40), ANT J3)



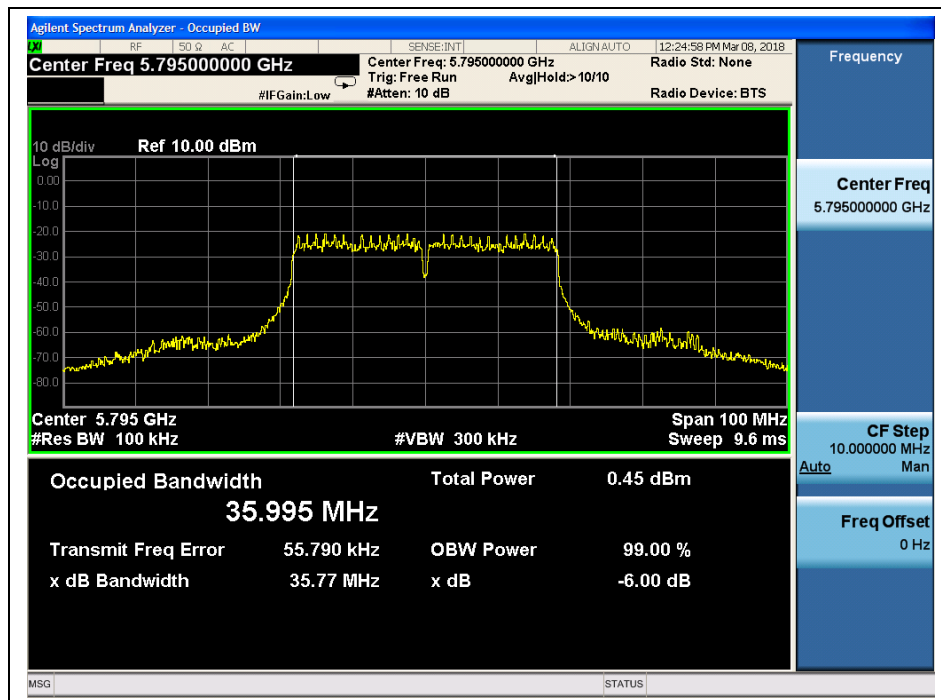
(Channel 126, 5630MHz, 802.11ac (VHT40), ANT J3)



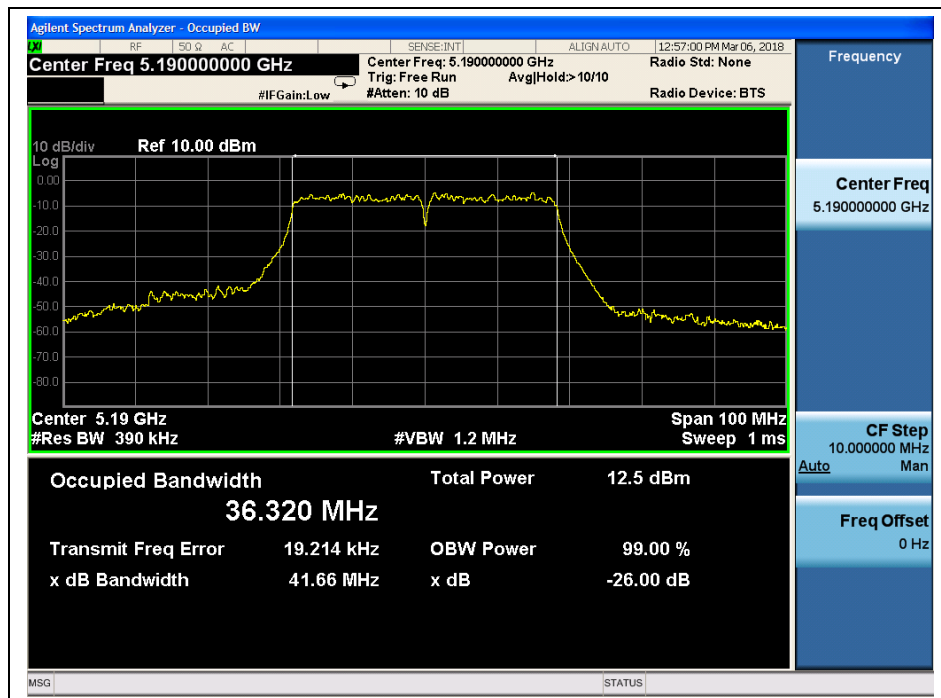
(Channel 142, 5710MHz, 802.11ac (VHT40), ANT J3)



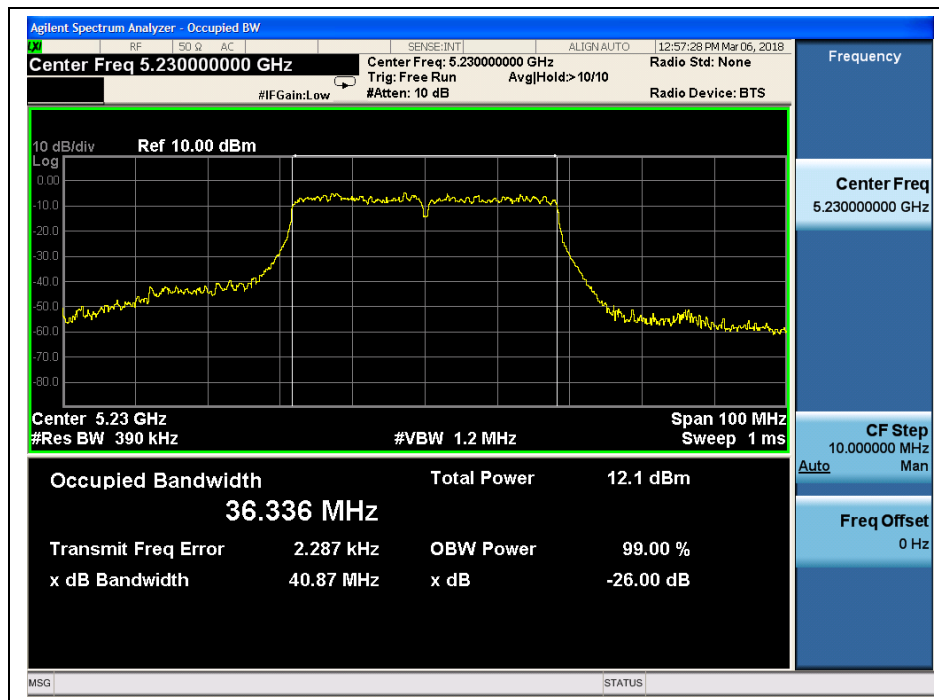
(Channel 151, 5755 MHz, 802.11ac (VHT40), ANT J3)



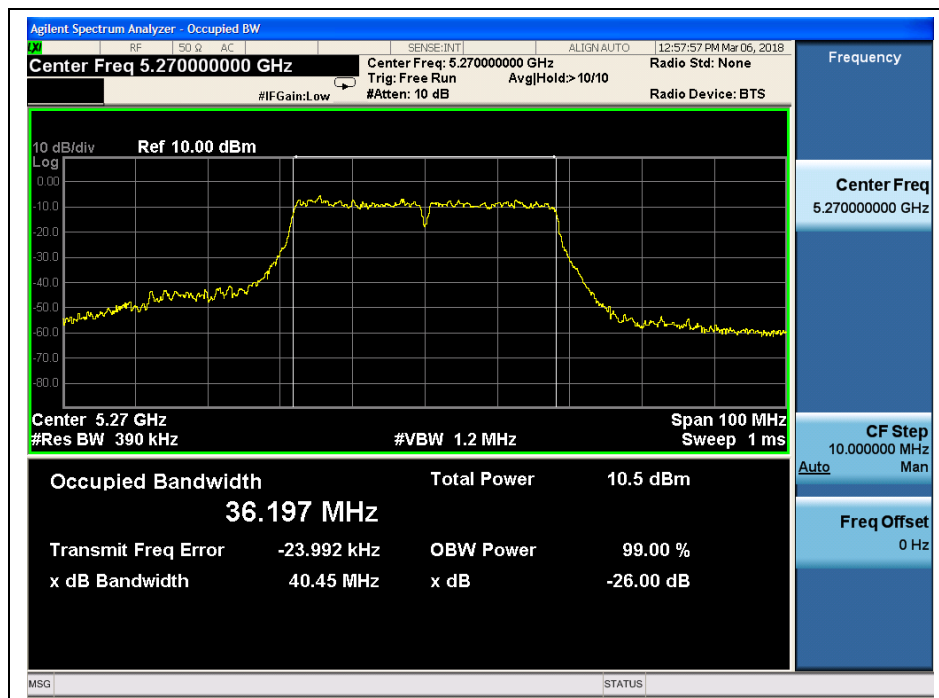
(Channel 159, 5795MHz, 802.11ac (VHT40), ANT J3)



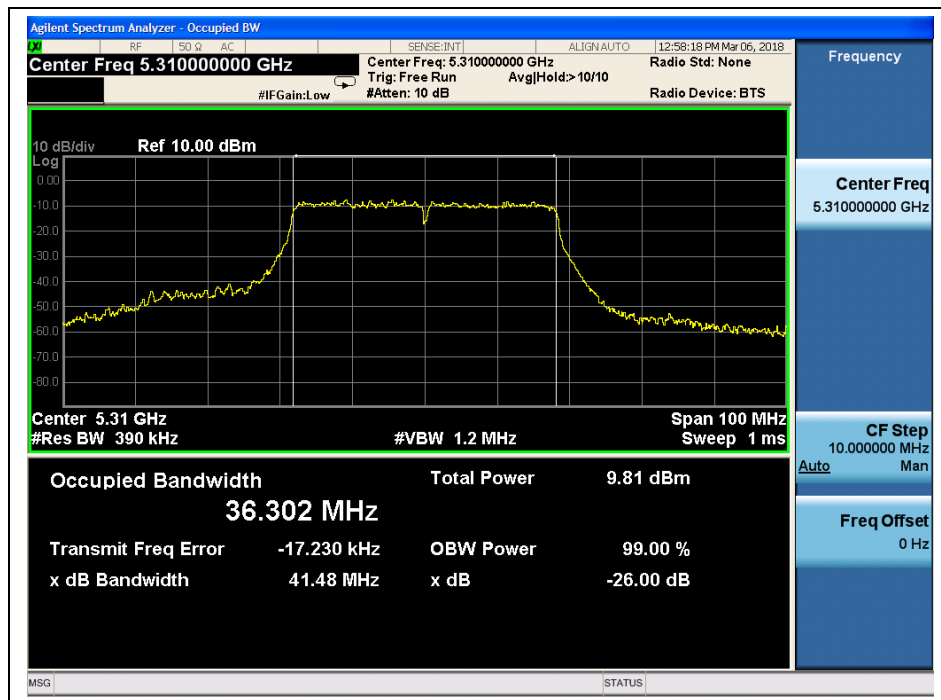
(Channel 38, 5190MHz, 802.11ac (VHT40), ANT J4)



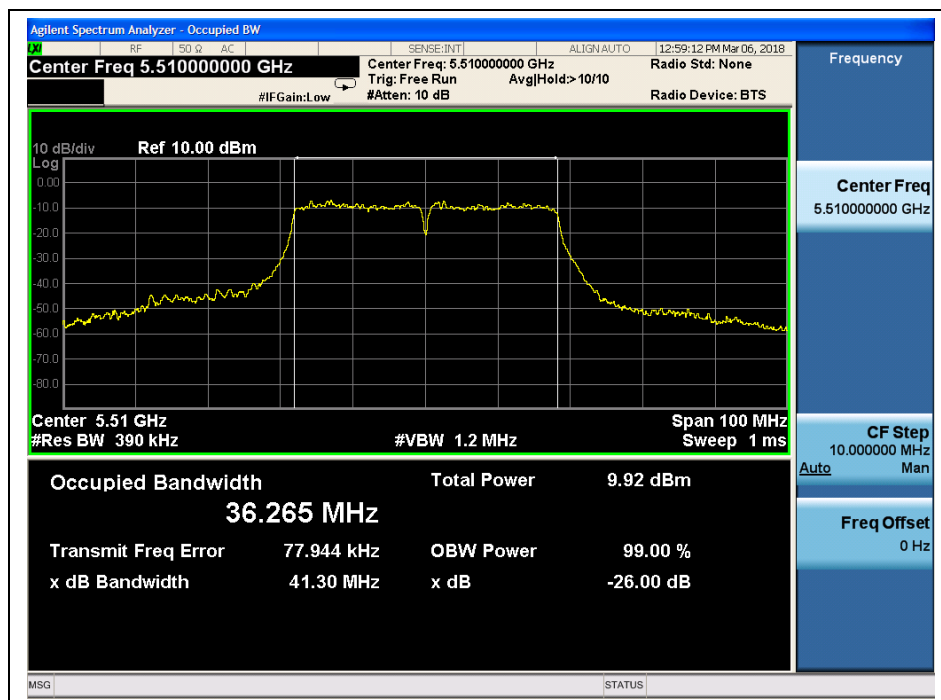
(Channel 46, 5230 MHz, 802.11ac (VHT40), ANT J4)



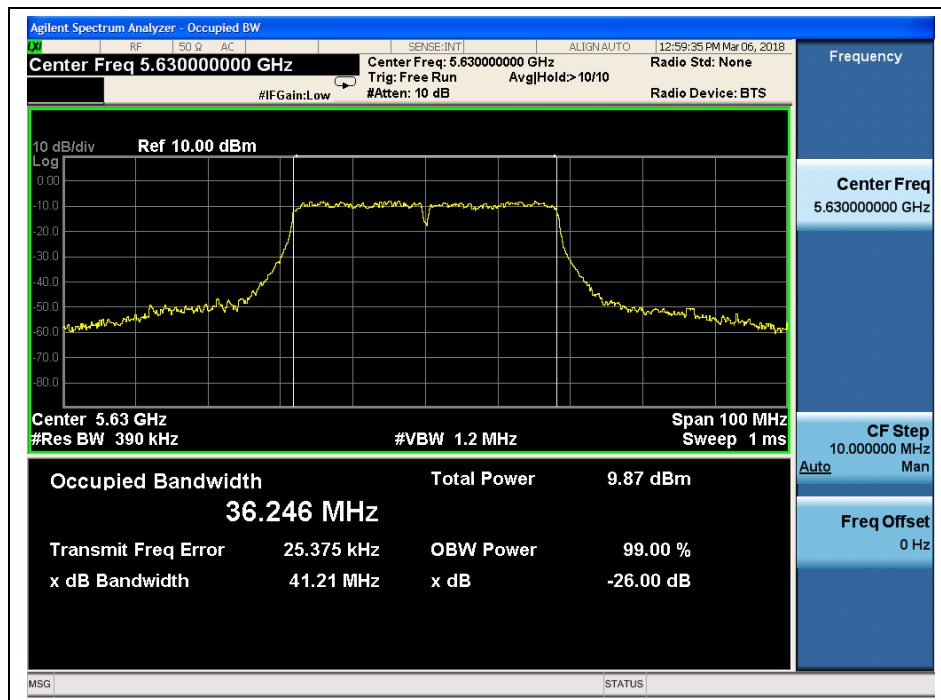
(Channel 54, 5270MHz, 802.11ac (VHT40), ANT J4)



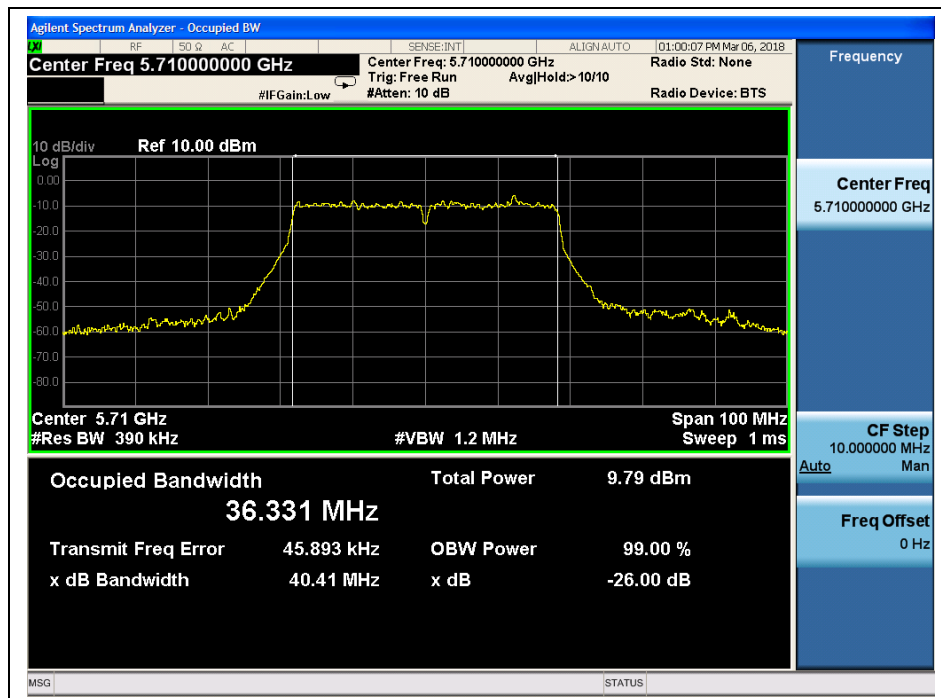
(Channel 62, 5310 MHz, 802.11ac (VHT40), ANT J4)



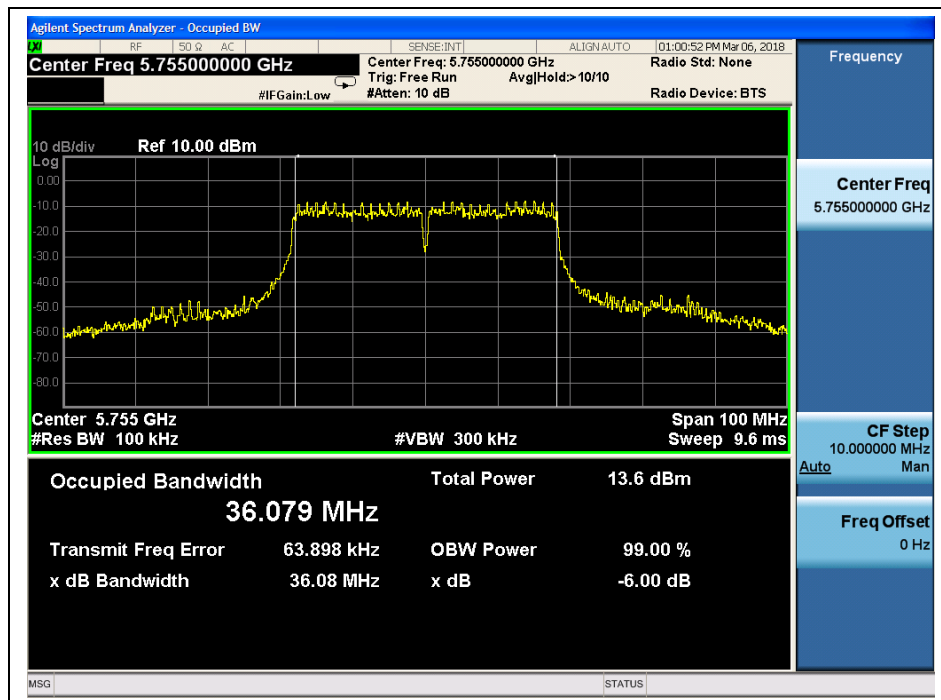
(Channel 102, 5510 MHz, 802.11ac (VHT40), ANT J4)



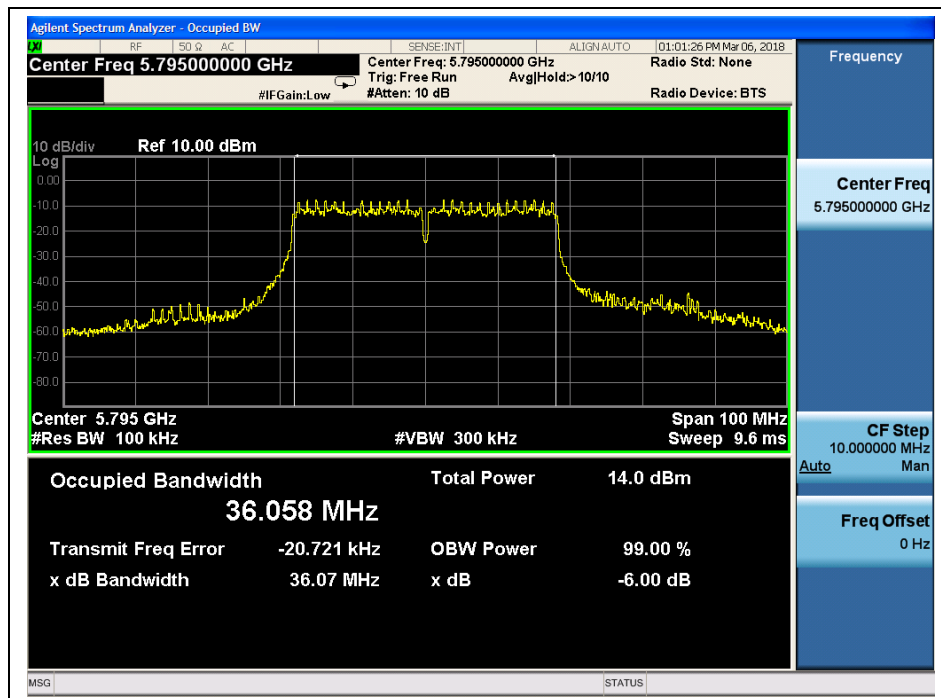
(Channel 126, 5630MHz, 802.11ac (VHT40), ANT J4)



(Channel 142, 5710MHz, 802.11ac (VHT40), ANT J4)



(Channel 151, 5755 MHz, 802.11ac (VHT40), ANT J4)



(Channel 159, 5795MHz, 802.11ac (VHT40), ANT J4)

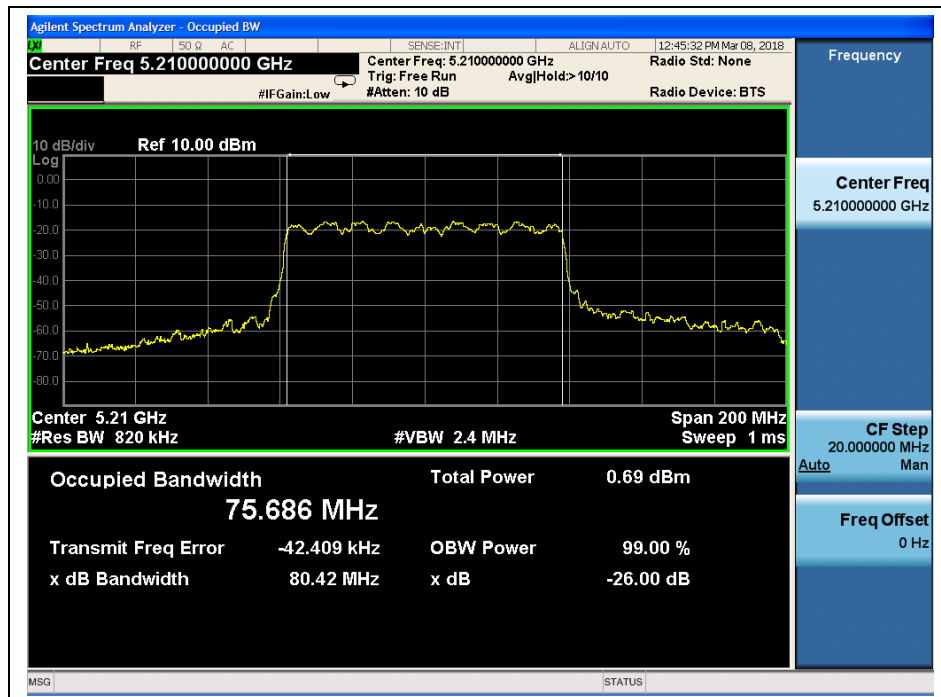


802.11ac (VHT80) Test mode

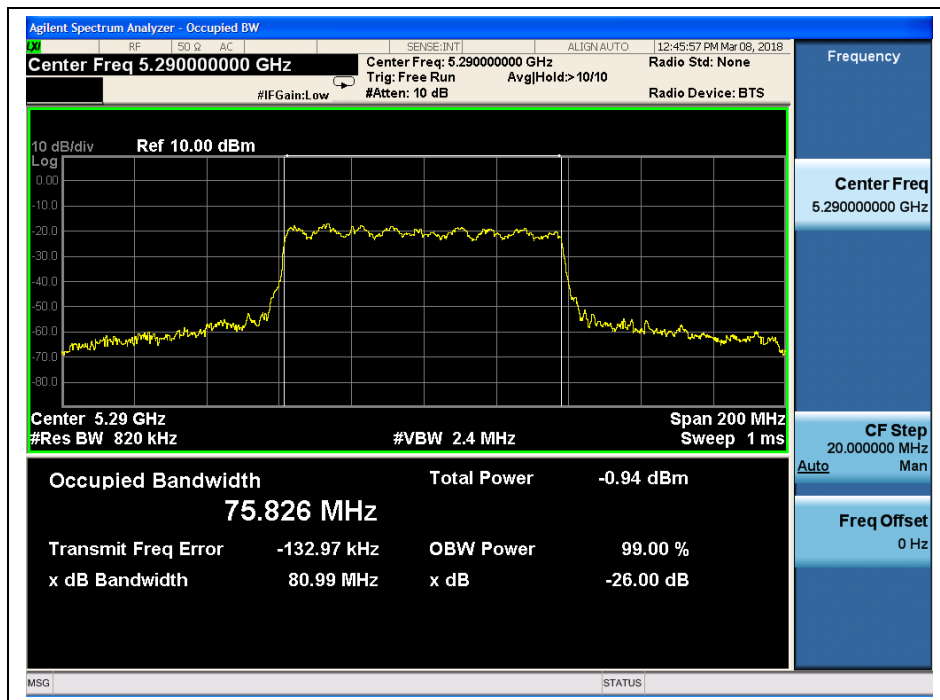
A. Test Verdict:

Channel	Frequency (MHz)	ANT J3 26 dB Bandwidth (MHz)	ANT J4 26 dB Bandwidth (MHz)
42	5210	80.42	82.35
58	5290	80.99	82.21
106	5530	80.41	82.63
122	5610	80.03	82.07
138	5690	80.27	83.03
Channel	Frequency (MHz)	ANT J3 6dB Bandwidth (MHz)	ANT J4 6dB Bandwidth (MHz)
155	5775	75.49	75.51

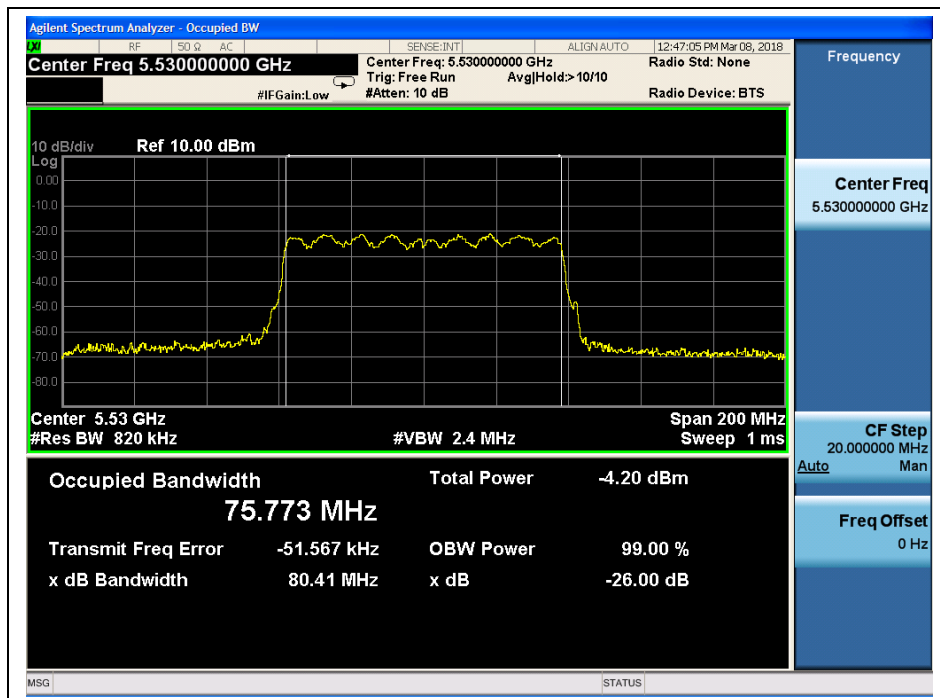
B. Test Plots



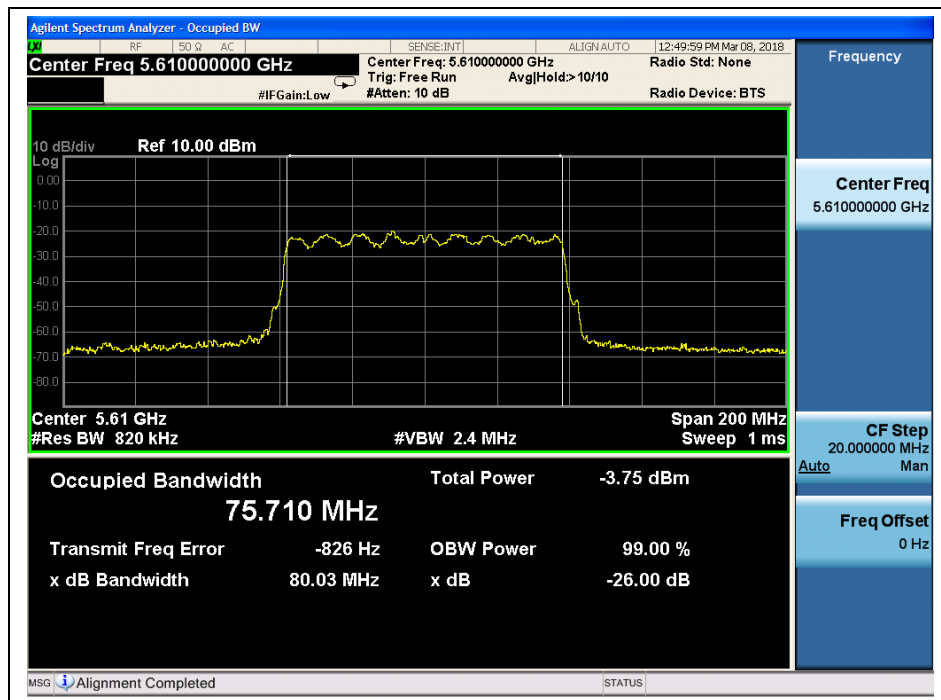
(Channel 42, 5210MHz, 802.11ac (VHT80), ANT J3)



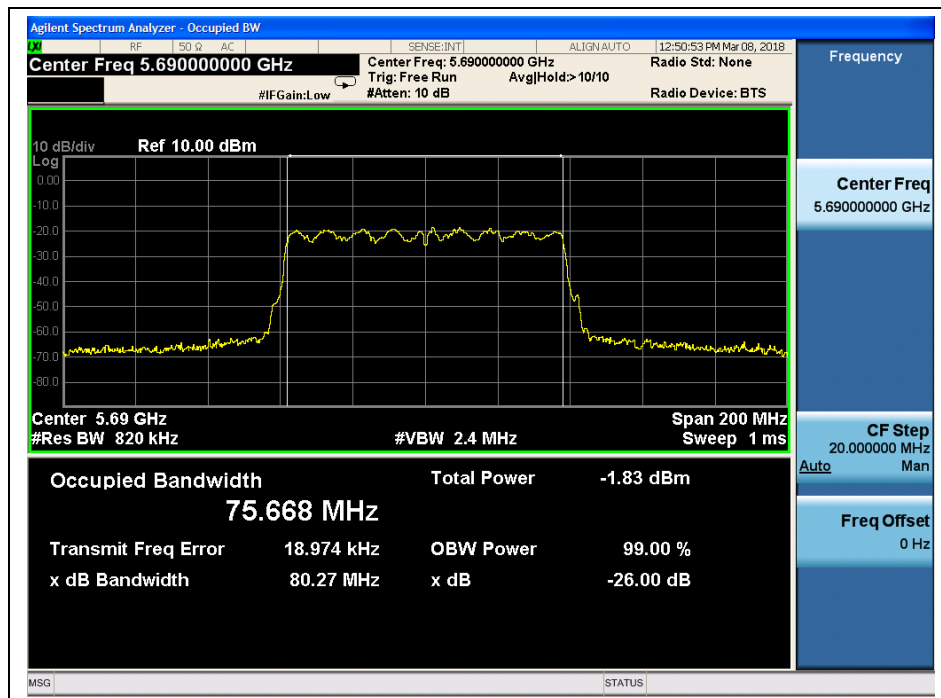
(Channel 58, 529 MHz, 802.11ac (VHT80), ANT J3)



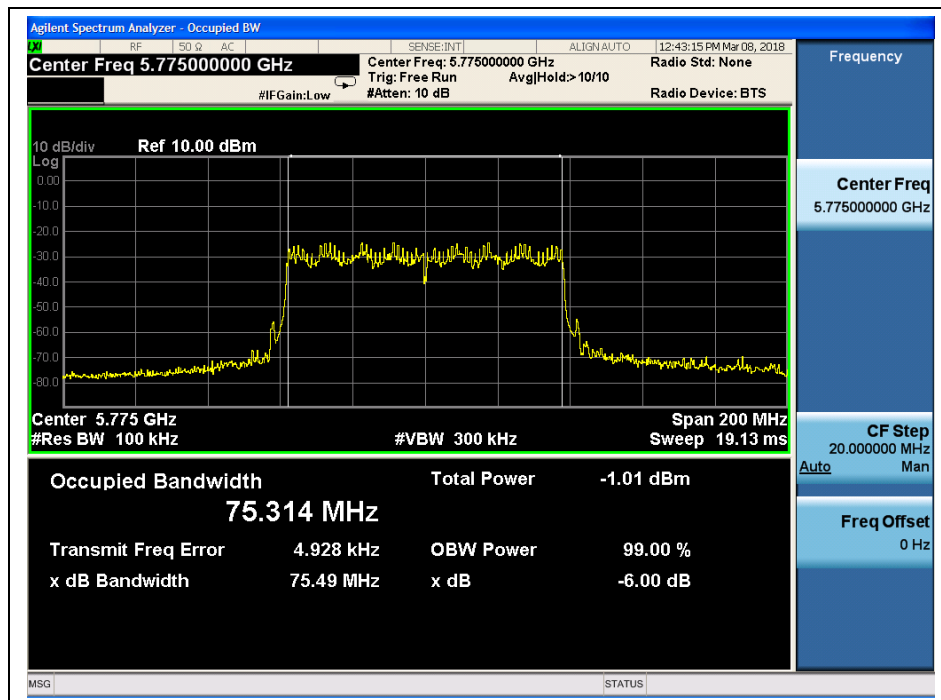
(Channel 106, 5530MHz, 802.11ac (VHT80), ANT J3)



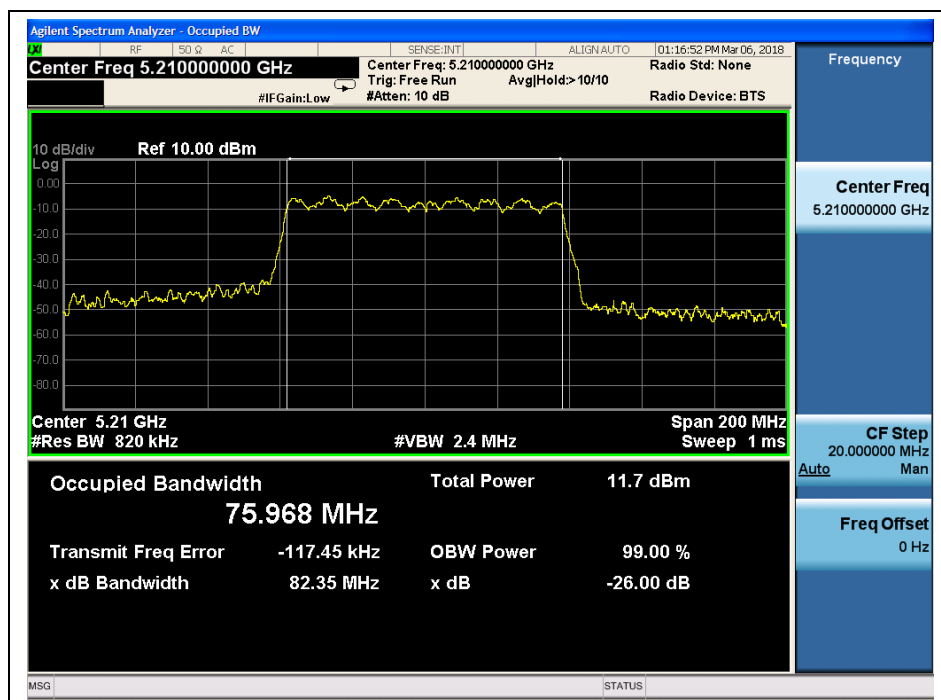
(Channel 122, 5610 MHz, 802.11ac (VHT80), ANT J3)



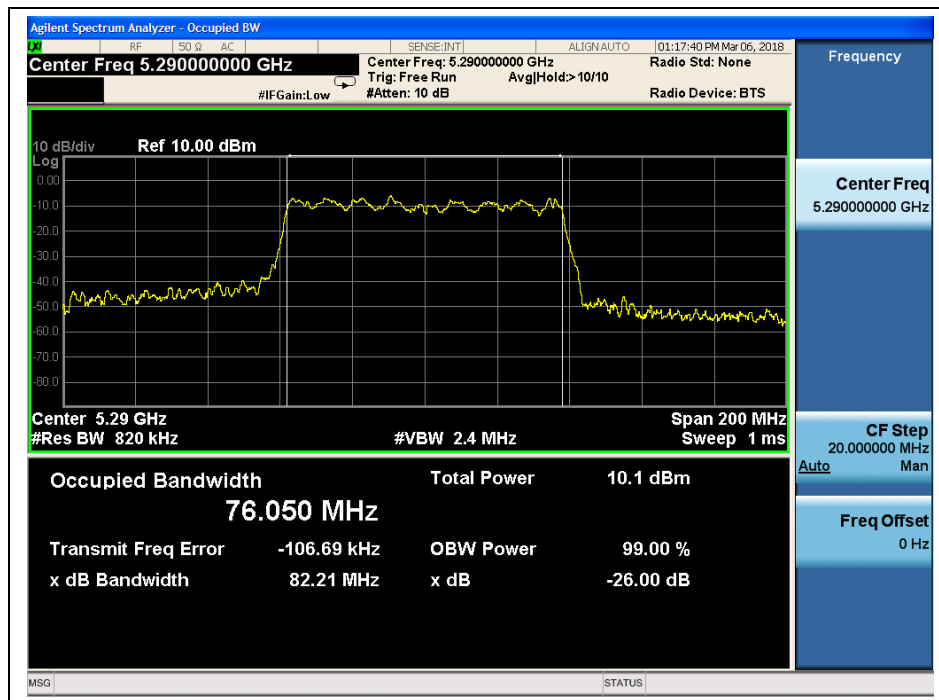
(Channel 138, 5690 MHz, 802.11ac (VHT80), ANT J3)



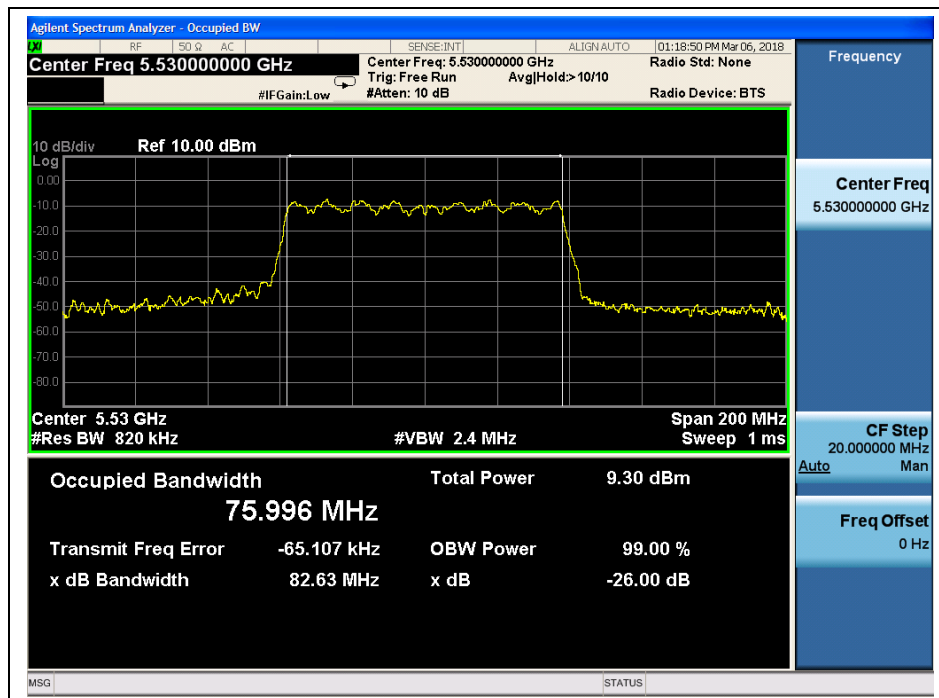
(Channel 155, 5775MHz, 802.11ac (VHT80), ANT J3)



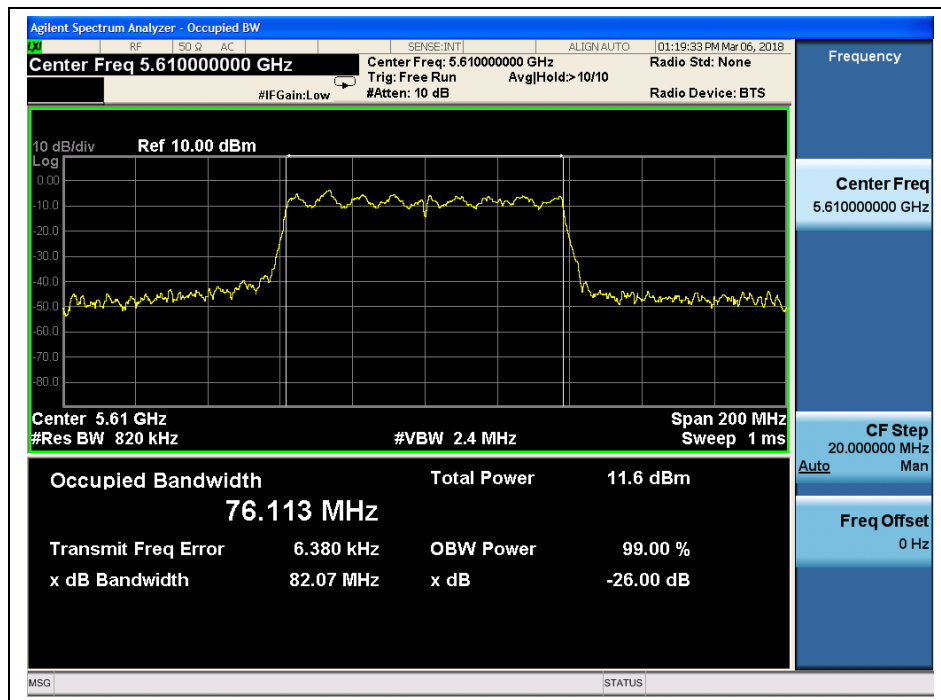
(Channel 42, 5210MHz, 802.11ac (VHT80), ANT J4)



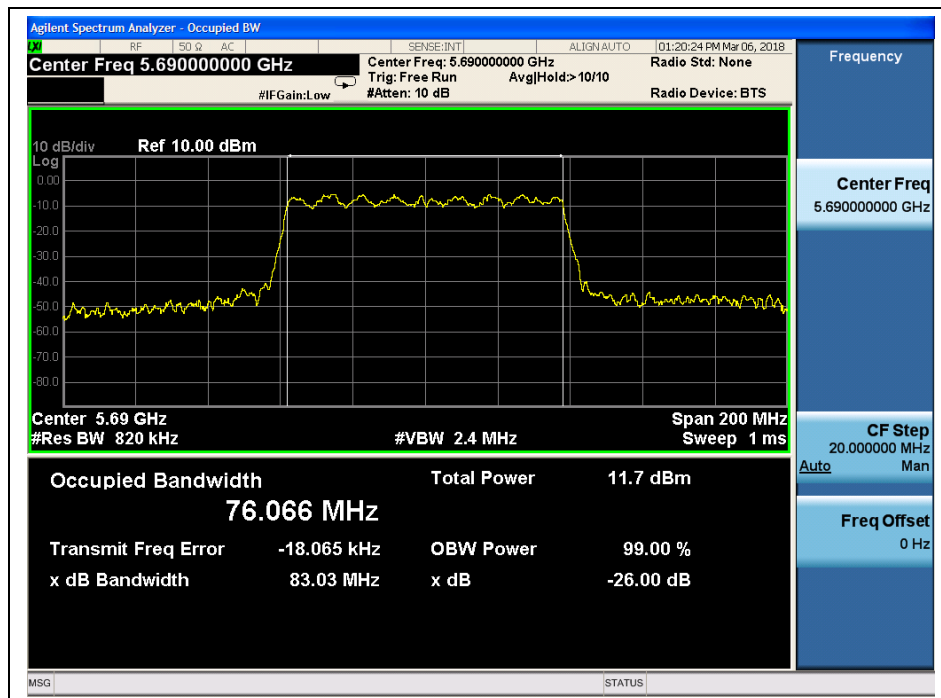
(Channel 58, 5290 MHz, 802.11ac (VHT80), ANT J4)



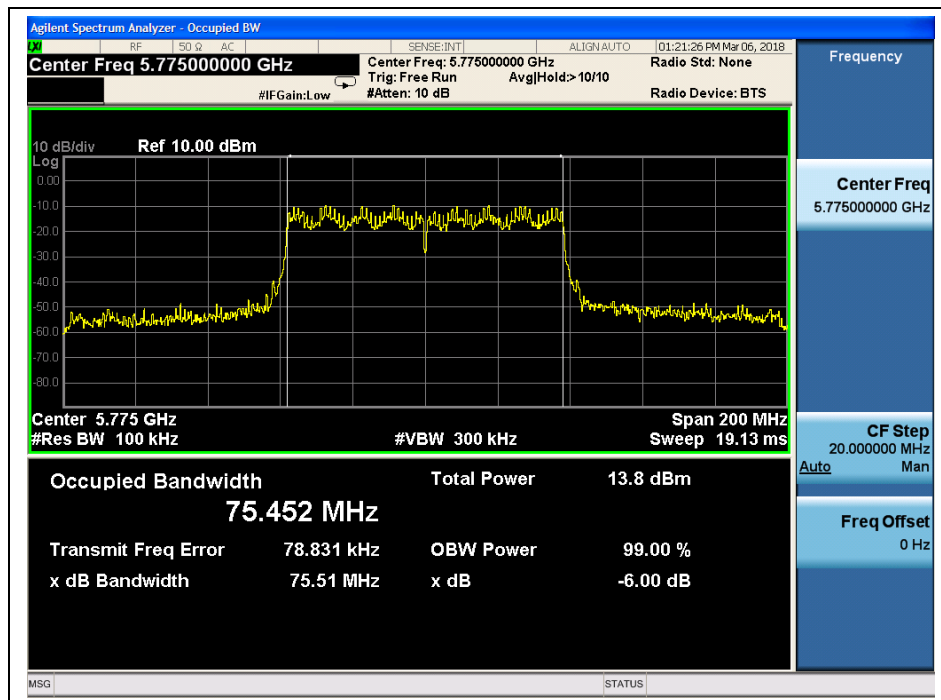
(Channel 106, 5530MHz, 802.11ac (VHT80), ANT J4)



(Channel 122, 5610 MHz, 802.11ac (VHT80), ANT J4)



(Channel 138, 5690 MHz, 802.11ac (VHT80), ANT J4)



(Channel 155, 5775 MHz, 802.11ac (VHT80), ANT J4)

2.4. Maximum conducted output power

2.4.1. Requirement

(1) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(4) According to KDB662911D01 Measure-and-sum technique, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in units that are directly proportional to power.

(5) According to KDB 662911 D01, the directional gain = $G_{\text{ANT}} + 10 \log(N_{\text{ANT}})$ dBi, where G_{ANT} is the antenna gain in dBi, N_{ANT} is the number of outputs.

2.4.2. Test Description

Section E) 3) of KDB 789033 defines a methodology using a USB Wideband Power Sensor.

A. Test Setup:



The EUT (Equipment under the test) which is coupled to the USB Wideband Power Sensor; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading, all test result in USB Wideband Power Sensor.

2.4.3. Limits

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

Mode	Band	Channel (MHz)	26dB BW (MHz)	$11+10\log(26\text{dB BW})$	Limits (dBm)
a	UNII-2a	5260	20.5	24.12	24
		5300	19.62	23.93	23.93
		5320	20.04	24.02	24
	UNII-2c	5500	19.55	23.91	23.91
		5600	19.16	23.82	23.82
		5720	19.4	23.88	23.88
n20	UNII-2a	5260	19.84	23.98	23.98
		5300	19.81	23.97	23.97
		5320	20.12	24.04	24
	UNII-2c	5500	20.07	24.03	24
		5600	19.97	24.00	24
		5720	20.05	24.02	24
ac20	UNII-2a	5260	21.09	24.24	24
		5300	20.68	24.16	24
		5320	20.05	24.02	24
	UNII-2c	5500	20.28	24.07	24
		5600	19.9	23.99	23.99
		5720	19.84	23.98	23.98

**2.4.4. Test Result****802.11a Test mode**

Channel	Frequency (MHz)	ANT J3 Measured Peak Power (dBm)	ANT J4 Measured Peak Power (dBm)	Limit (dBm)	Verdict
36	5180	15.75	17.20	24	PASS
44	5220	15.15	15.41		
48	5240	15.05	16.15		
52	5260	14.75	15.23	24	
60	5300	14.13	15.15	23.93	
64	5320	14.63	13.70	24	
100	5500	13.34	13.51	23.91	
120	5600	11.6	14.52	23.82	
144	5720	13.45	13.38	24	
149	5745	15.79	16.30	30	
157	5785	14.18	16.84		
165	5825	13.92	16.79		

Channel	Frequency (MHz)	ANT J3 Measured Average Power (dBm)	ANT J4 Measured Average Power (dBm)	Limit (dBm)	Verdict
36	5180	8.64	10.10	24	PASS
44	5220	7.71	8.90		
48	5240	7.17	8.30		
52	5260	5.43	7.16	24	
60	5300	5.24	6.55	23.93	
64	5320	4.75	6.07	24	
100	5500	4.51	5.72	23.91	
120	5600	4.66	5.89	23.82	
144	5720	3.94	5.10	24	
149	5745	6.53	7.80	30	
157	5785	7.20	8.44		
165	5825	7.94	8.90		

**802.11n (HT20) Test mode**

Channel	Frequency (MHz)	ANT J3 Measured Peak Power (dBm)	ANT J4 Measured Peak Power (dBm)	Limit (dBm)	Verdict
36	5180	14.82	14.76	24	PASS
44	5220	14.51	15.00		
48	5240	14.07	14.62		
52	5260	14.72	15.27	23.98	
60	5300	13.06	13.30	23.97	
64	5320	12.86	13.26	24	
100	5500	11.21	12.31	24	
120	5600	11.07	13.47	24	
144	5720	12.86	12.75	24	
149	5745	13.59	16.00	30	
157	5785	12.44	16.61		
165	5825	12.77	15.60		

Channel	Frequency (MHz)	ANT J3 Measured Average Power (dBm)	ANT J4 Measured Average Power (dBm)	Limit (dBm)	Verdict
36	5180	6.41	7.75	24	PASS
44	5220	5.17	6.34		
48	5240	6.31	6.95		
52	5260	5.77	6.14	23.98	
60	5300	5.44	5.47	23.97	
64	5320	5.52	5.52	24	
100	5500	4.48	5.12	24	
120	5600	4.40	5.28	24	
144	5720	3.64	4.40	24	
149	5745	6.25	7.22	30	
157	5785	6.86	7.97		
165	5825	7.27	8.56		

**Total Peak Power (ANT J3+ANT J4)**

Channel	Frequency (MHz)	Total Peak Power (dBm))	Total Peak Power (W)	Limit _{Note} (dBm)	Verdict
36	5180	17.80	0.0603	23.99	PASS
44	5220	17.77	0.0598		
48	5240	17.36	0.0545		
52	5260	18.01	0.0632	23.97	
60	5300	16.19	0.0416	23.96	
64	5320	16.07	0.0405	23.99	
100	5500	14.81	0.0303	23.99	
120	5600	15.44	0.0350	23.99	
144	5720	15.82	0.0382	23.99	
149	5745	17.97	0.0627	29.99	
157	5785	18.02	0.0634		
165	5825	17.42	0.0552		
Note: Directional gain = 3.0dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24-(6.01-6) = 23.99dBm for 5.15-5.25 GHz band and be reduced 30-(6.01-6) = 29.99dBm for 5.725-5.85 GHz band.					

**802.11n (HT40) Test mode**

Channel	Frequency (MHz)	ANT J3 Measured Peak Power (dBm)	ANT J4 Measured Peak Power (dBm)	Limit (dBm)	Verdict
38	5190	13.56	14.68	24	PASS
46	5230	13.91	15.24		
54	5270	13.47	13.83		
62	5310	13.32	13.63		
102	5510	12.05	14.09		
126	5630	11.34	13.00		
142	5710	12.18	12.35		
151	5755	14.63	15.18	30	
159	5795	13.14	16.18		

Channel	Frequency (MHz)	ANT J3 Measured Average Power (dBm)	ANT J4 Measured Average Power (dBm)	Limit (dBm)	Verdict
38	5190	7.78	7.63	24	PASS
46	5230	7.11	7.34		
54	5270	6.00	6.18		
62	5310	5.76	3.26		
102	5510	5.53	5.11		
126	5630	5.70	5.28		
142	5710	5.31	4.82		
151	5755	7.68	8.15	30	
159	5795	8.32	8.64		

**Total Peak Power (ANT J3+ANT J4)**

Channel	Frequency (MHz)	Total Peak Power (dBm)	Total Peak Power (W)	Limit ^{Note} (dBm)	Verdict
38	5190	17.17	0.0521	23.99	PASS
46	5230	17.64	0.0581		
54	5270	16.66	0.0463		
62	5310	16.49	0.0446		
102	5510	16.20	0.0417		
126	5630	15.26	0.0336		
142	5710	15.28	0.0337		
151	5755	17.92	0.0619	29.99	
159	5795	17.93	0.0621		

Note: Directional gain = 3.0dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24-(6.01-6) = 23.99dBm for 5.15-5.25 GHz band and be reduced 30-(6.01-6) = 29.99dBm for 5.725-5.85 GHz band.

**802.11ac (VHT20) Test mode**

Channel	Frequency (MHz)	ANT J3 Measured Peak Power (dBm)	ANT J4 Measured Peak Power (dBm)	Limit (dBm)	Verdict
36	5180	15.28	15.60	24	PASS
44	5220	14.81	13.58		
48	5240	14.28	13.38		
52	5260	14.5	13.43	24	
60	5300	13.12	13.02	24	
64	5320	13.09	13.69	24	
100	5500	11.72	12.92	24	
120	5600	10.44	13.23	23.99	
144	5720	12.28	12.95	23.98	
149	5745	14.42	16.80	30	
157	5785	13.97	16.19		
165	5825	14.16	16.53		

Channel	Frequency (MHz)	ANT J3 Measured Average Power (dBm)	ANT J4 Measured Average Power (dBm)	Limit (dBm)	Verdict
36	5180	6.70	8.19	24	PASS
44	5220	5.92	7.25		
48	5240	5.59	6.90		
52	5260	5.01	6.03	24	
60	5300	4.33	5.52	24	
64	5320	4.82	5.73	24	
100	5500	4.31	4.92	24	
120	5600	3.76	5.44	23.99	
144	5720	4.03	4.84	23.98	
149	5745	7.95	8.23	30	
157	5785	6.07	8.15		
165	5825	6.36	8.97		

**Total Peak Power (ANT J3+ANT J4)**

Channel	Frequency (MHz)	Total Peak Power (dBm))	Total Peak Power (W)	Limit _{Note} (dBm)	Verdict
36	5180	18.45	0.0700	23.99	PASS
44	5220	17.25	0.0531		
48	5240	16.86	0.0485		
52	5260	17.01	0.0502	23.99	
60	5300	16.08	0.0406	23.99	
64	5320	16.41	0.0438	23.99	
100	5500	15.37	0.0344	23.99	
120	5600	15.07	0.0321	23.98	
144	5720	15.64	0.0366	23.97	
149	5745	18.78	0.0755	29.99	
157	5785	18.23	0.0665		
165	5825	18.52	0.0711		
Note: Directional gain = 3.0dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24-(6.01-6) = 23.99dBm for 5.15-5.25 GHz band and be reduced 30-(6.01-6) = 29.99dBm for 5.725-5.85 GHz band.					

**802.11ac (VHT40) Test mode**

Channel	Frequency (MHz)	ANT J3 Measured Peak Power (dBm)	ANT J4 Measured Peak Power (dBm)	Limit (dBm)	Verdict
38	5190	13.98	15.50	24	PASS
46	5230	13.67	15.57		
54	5270	13.63	13.43		
62	5310	12.87	13.05		
102	5510	11.16	12.82		
126	5630	11.10	13.35		
142	5710	12.46	13.26		
151	5755	14.71	15.46	30	
159	5795	12.67	15.29		

Channel	Frequency (MHz)	ANT J3 Measured Average Power (dBm)	ANT J4 Measured Average Power (dBm)	Limit (dBm)	Verdict
38	5190	7.19	7.11	24	PASS
46	5230	4.69	5.52		
54	5270	6.32	6.30		
62	5310	5.41	5.94		
102	5510	4.78	5.46		
126	5630	4.99	5.73		
142	5710	4.46	4.86		
151	5755	7.12	7.83	30	
159	5795	6.38	8.34		

**Total Peak Power (ANT J3+ANT J4)**

Channel	Frequency (MHz)	Total Peak Power (dBm)	Total Peak Power (W)	Limit _{Note} (dBm)	Verdict
38	5190	17.82	0.0605	23.99	PASS
46	5230	17.73	0.0593		
54	5270	16.54	0.0451		
62	5310	15.97	0.0395		
102	5510	15.08	0.0322		
126	5630	15.38	0.0345		
142	5710	15.89	0.0388		
151	5755	18.11	0.0647	29.99	
159	5795	17.18	0.0522		
Note: Directional gain = 3.0dBi + 10log(2) = 6.01dBi > 6dBi, so the power limit shall be reduced to 24-(6.01-6) = 23.99dBm for 5.15-5.25 GHz band and be reduced 30-(6.01-6) = 29.99dBm for 5.725-5.85 GHz band.					

**802.11ac (VHT80) Test mode**

Channel	Frequency (MHz)	ANT J3 Measured Peak Power (dBm)	ANT J4 Measured Peak Power (dBm)	Limit (dBm)	Verdict
42	5210	11.93	11.97	24	PASS
58	5290	11.21	10.06		
106	5530	7.99	9.73		
122	5610	7.64	9.91		
138	5690	9.37	9.60		
155	5775	10.04	12.67	30	

Channel	Frequency (MHz)	ANT J3 Measured Average Power (dBm)	ANT J4 Measured Average Power (dBm)	Limit (dBm)	Verdict
42	5210	9.15	8.57	24	PASS
58	5290	8.22	6.30		
106	5530	6.52	6.17		
122	5610	6.50	5.60		
138	5690	6.31	6.91		
155	5775	6.43	9.06	30	

Total Peak Power (ANT J3+ANT J4)

Channel	Frequency (MHz)	Total Peak Power (dBm)	Total Peak Power (W)	Limit ^{Note} (dBm)	Verdict
42	5210	14.96	0.0313	23.99	PASS
58	5290	13.68	0.0233		
106	5530	11.96	0.0157		
122	5610	11.93	0.0156		
138	5690	12.50	0.0178		
155	5775	14.56	0.0286	29.99	

Note: Directional gain = $3.0\text{dBi} + 10\log(2) = 6.01\text{dBi} > 6\text{dBi}$, so the power limit shall be reduced to $24 - (6.01 - 6) = 23.99\text{dBm}$ for 5.15-5.25 GHz band and be reduced $30 - (6.01 - 6) = 29.99\text{dBm}$ for 5.725-5.85 GHz band.

2.5. Peak Power spectral density

2.5.1. Requirement

- (1) For 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.
- (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.
- (3) For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band.

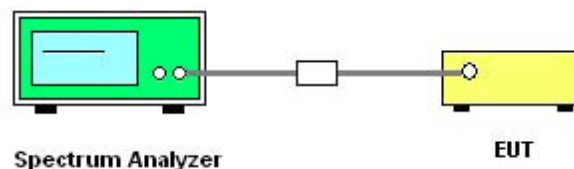
If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(4) According to KDB662911D01 Measure-and-sum technique, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device. Summing is performed in units that are directly proportional to power.

(5) According to KDB 662911 D01, the directional gain = $G_{ANT} + 10\log(N_{ANT})$ dBi, where G_{ANT} is the antenna gain in dBi, N_{ANT} is the number of outputs.

2.5.2. Test Description

A. Test Set:



The EUT is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

B. Test Procedure

KDB 789033 Section F) Maximum Power Spectral Density (PSD) Method SA-1 was used in order to prove compliance

- 1) Set span to encompass the entire 26-dB emission bandwidth
- 2) Set RBW = 1 MHz. Set VBW $\geq$ 3 MHz.
- 3) Number of points in sweep $\geq$ 2 Span / RBW. Sweep time = auto.
- 4) Detector = RMS (i.e., power averaging)
- 5) Trace average at least 100 traces in power averaging (i.e., RMS) mode
- 6) Record the max value



2.5.3. Test Result

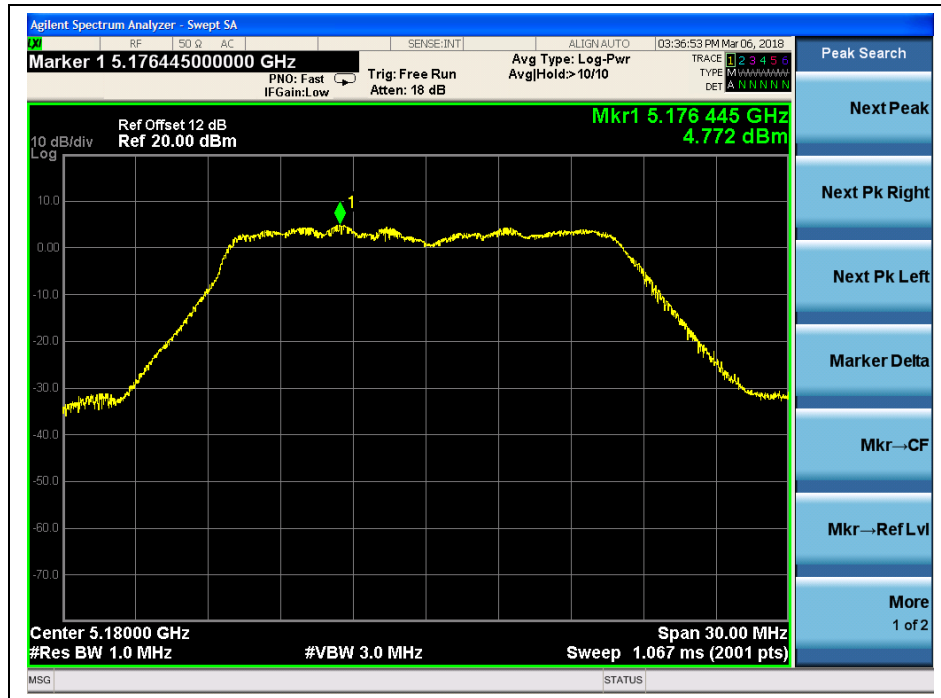
802.11a Test mode

A. Test Verdict:

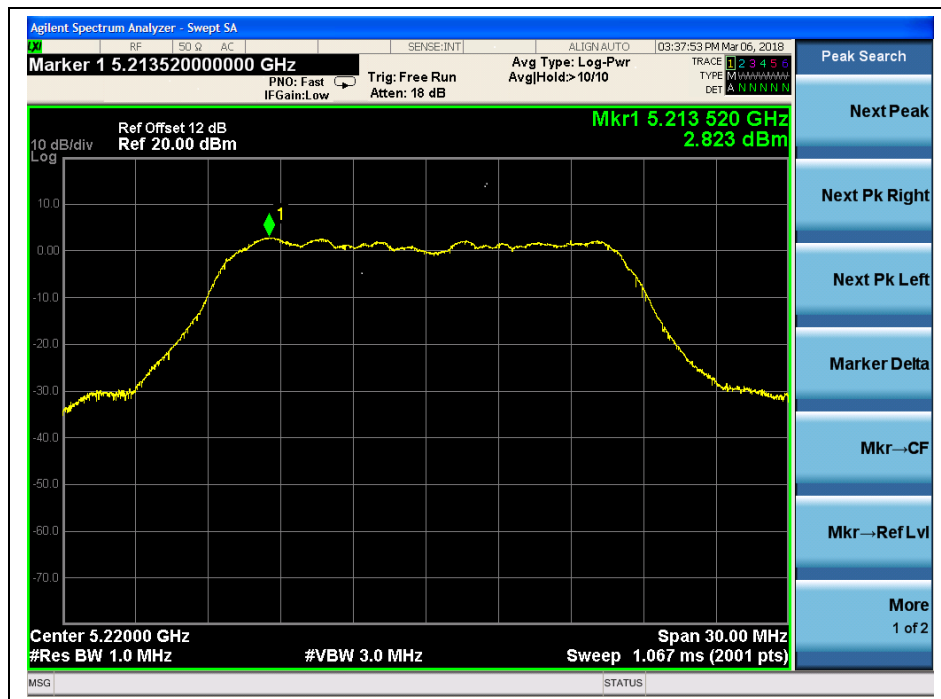
Channel	Frequency (MHz)	ANT J3		ANT J4		Limit (dBm/MHz)
		Measured PSD (dBm/MHz)	Calibrated with Duty cycle factor	Measured PSD (dBm/MHz)	Calibrated with Duty cycle factor	
36	5180	4.77	5.96	4.35	5.64	11
44	5220	2.82	4.01	4.67	5.96	
48	5240	2.77	3.96	3.16	4.45	
52	5260	2.22	3.41	1.75	3.04	
60	5300	2.64	3.83	1.56	2.85	
64	5320	2.30	3.49	0.19	1.48	
100	5500	0.89	2.08	0.91	2.20	
120	5600	-1.08	0.11	1.99	3.28	
144	5720	1.89	3.08	1.08	2.37	
Channel	Frequency (MHz)	Measured PSD (dBm/500KHz)	Calibrated with Duty cycle factor	Measured PSD (dBm/500KHz)	Calibrated with Duty cycle factor	Limit (dBm/500KHz)
149	5745	-0.83	0.36	-0.01	1.28	30
157	5785	-2.00	-0.81	1.16	2.45	
165	5825	-1.54	-0.35	1.04	2.33	



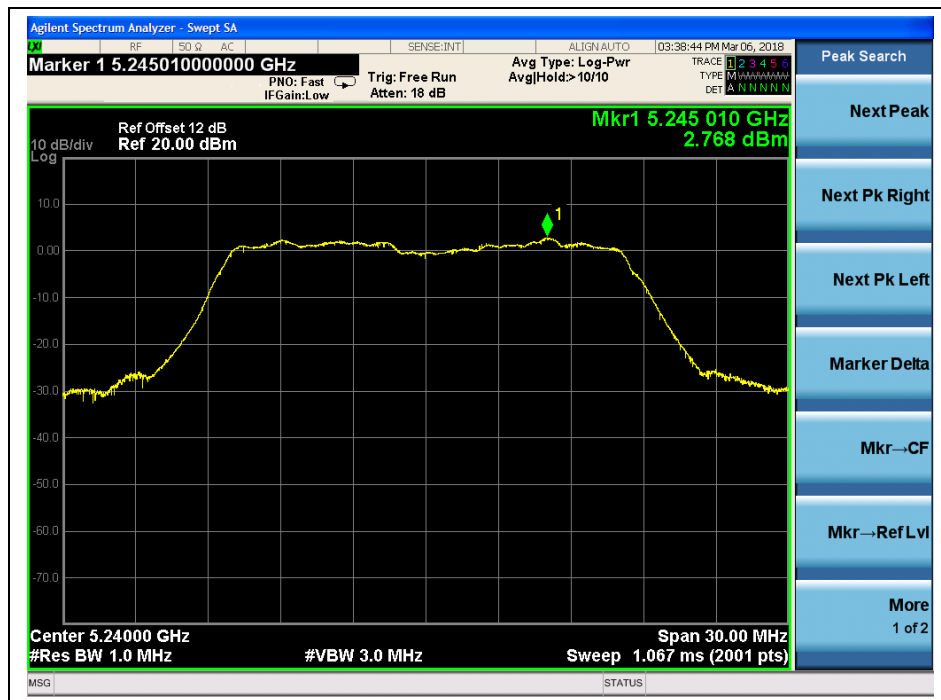
B. Test Plots



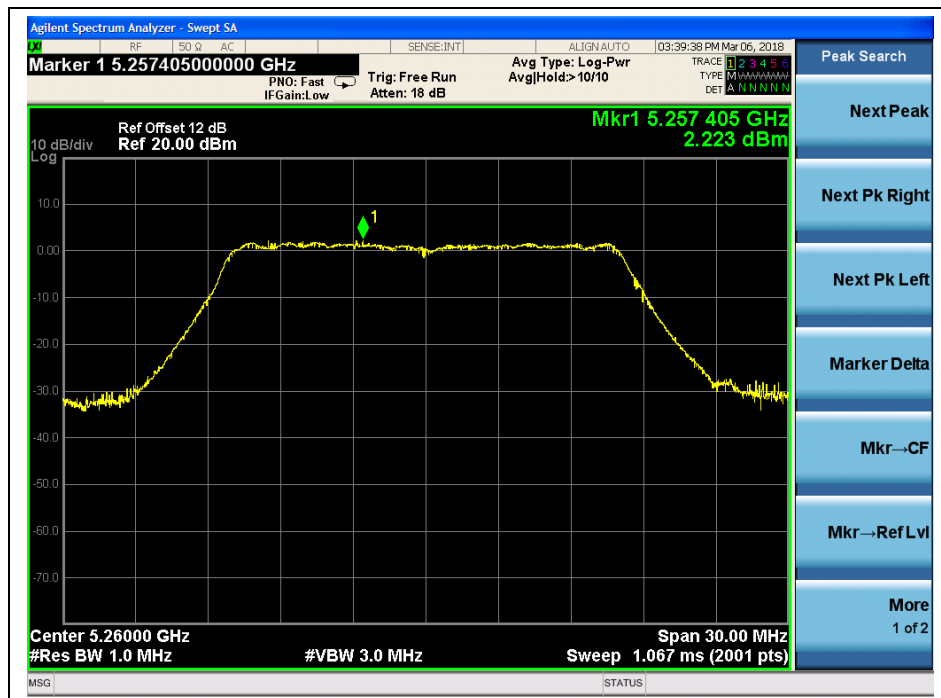
(Channel 36, 5180MHz, 802.11a, ANT J3)



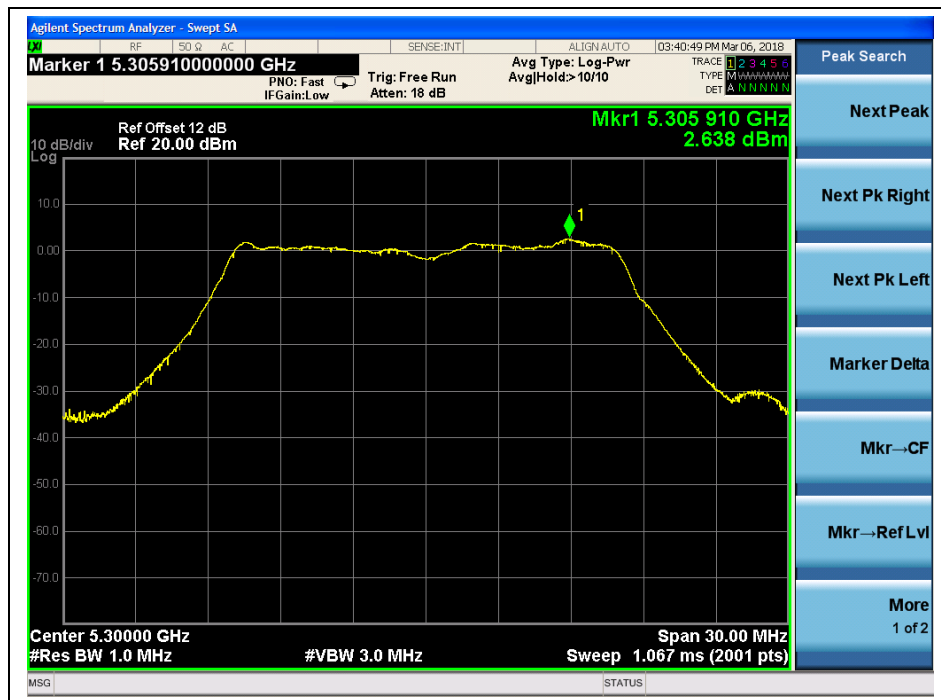
(Channel 44, 5220 MHz, 802.11a, ANT J3)



(Channel 48, 5240MHz, 802.11a, ANT J3)



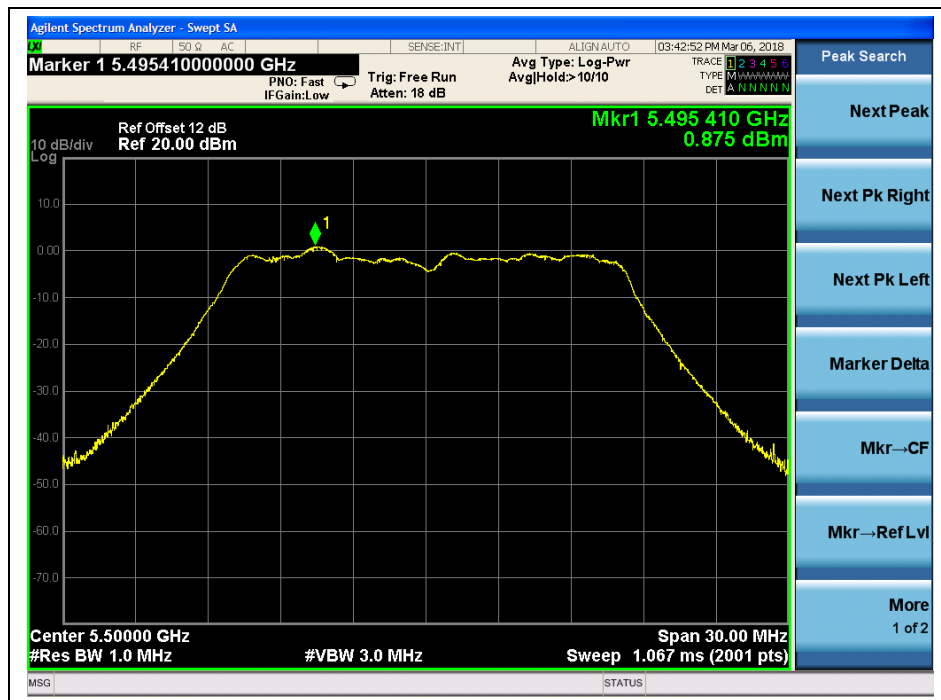
(Channel 52, 5260MHz, 802.11a, ANT J3)



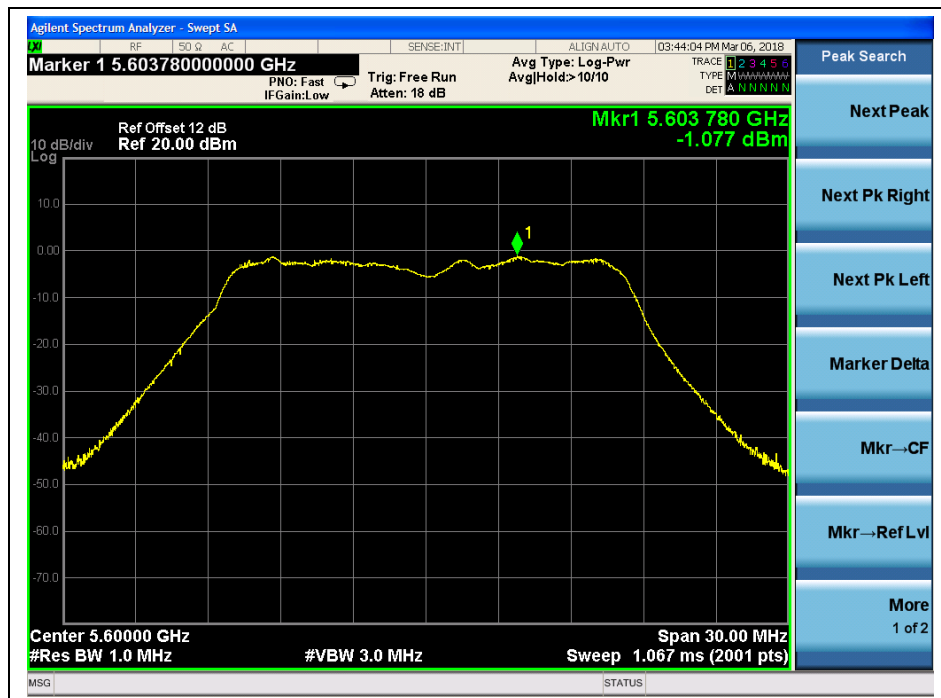
(Channel 60, 5300 MHz, 802.11a, ANT J3)



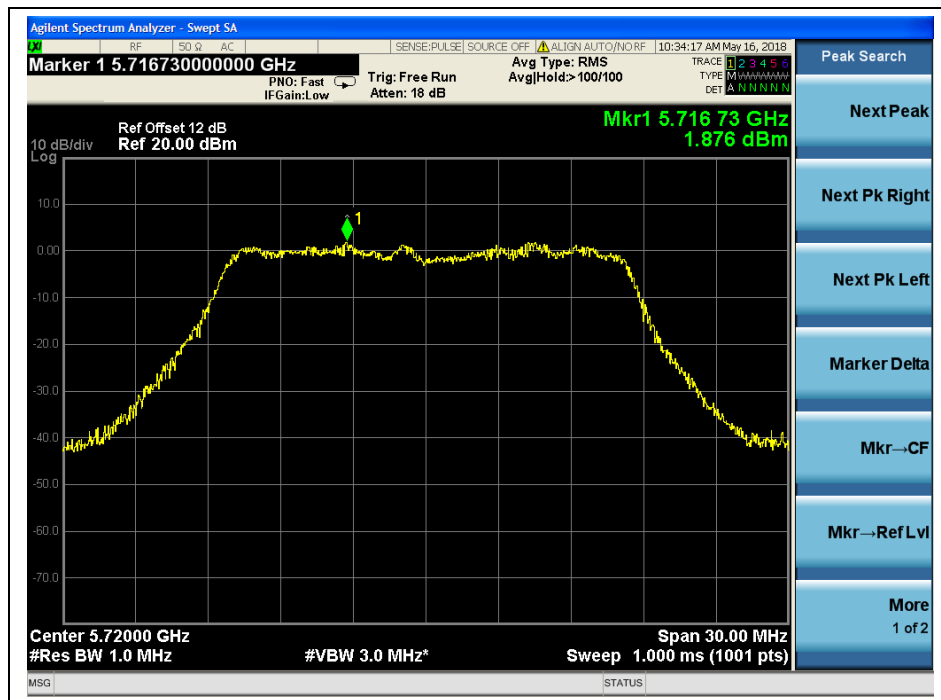
(Channel 64, 5320MHz, 802.11a, ANT J3)



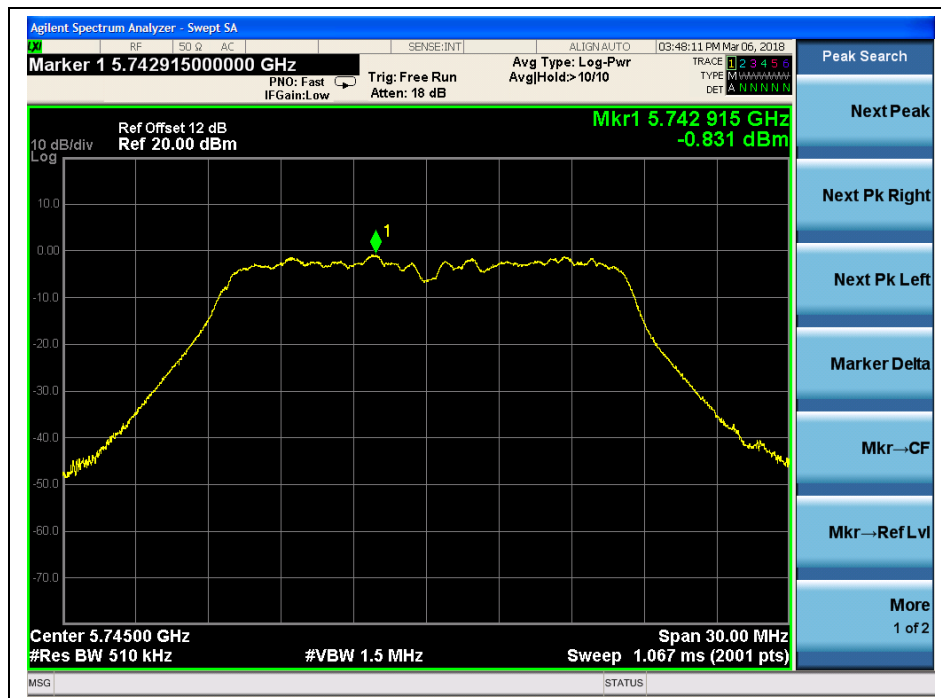
(Channel 100, 5500MHz, 802.11a, ANT J3)



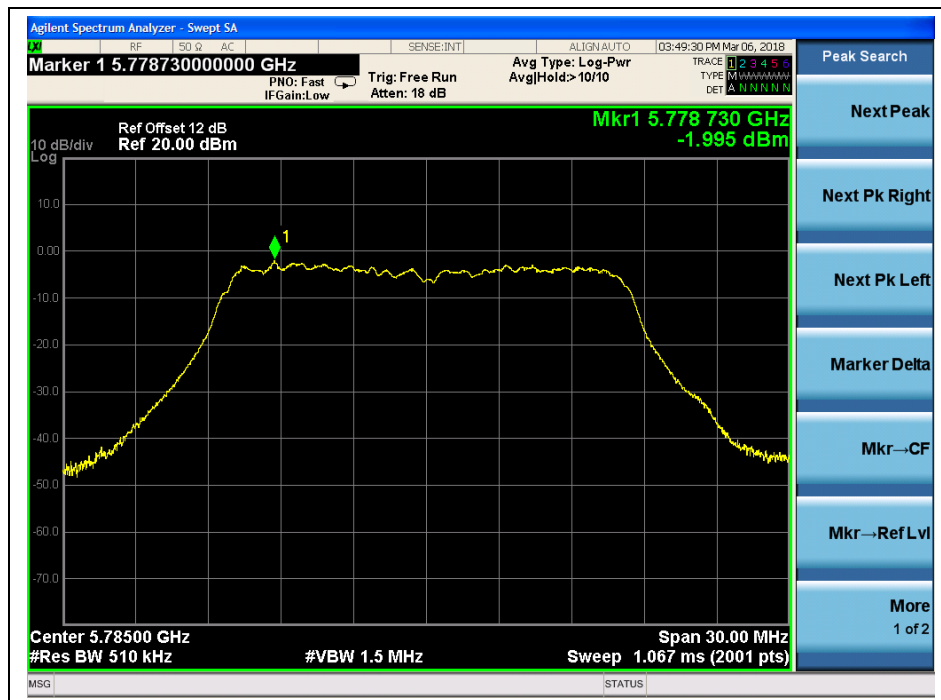
(Channel 120, 5600 MHz, 802.11a, ANT J3)



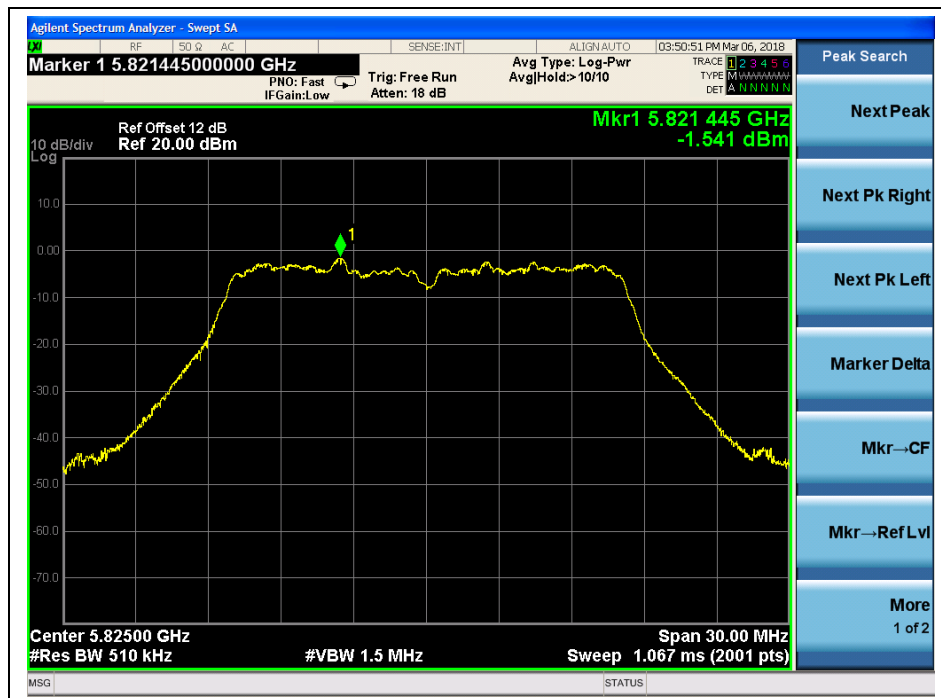
(Channel 144, 5720MHz, 802.11a, ANT J3)



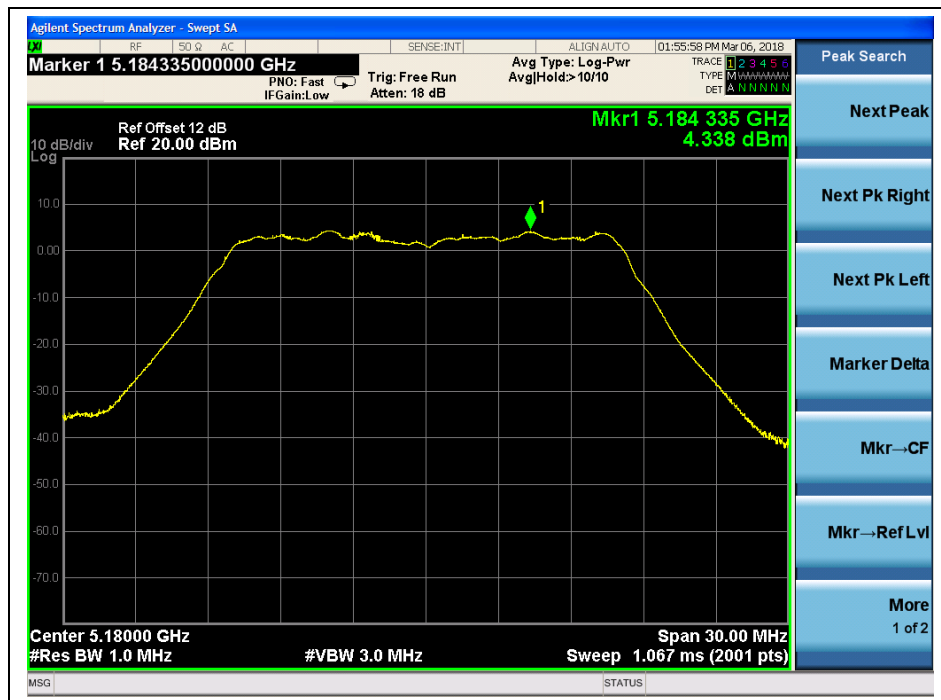
(Channel 149, 5745MHz, 802.11a, ANT J3)



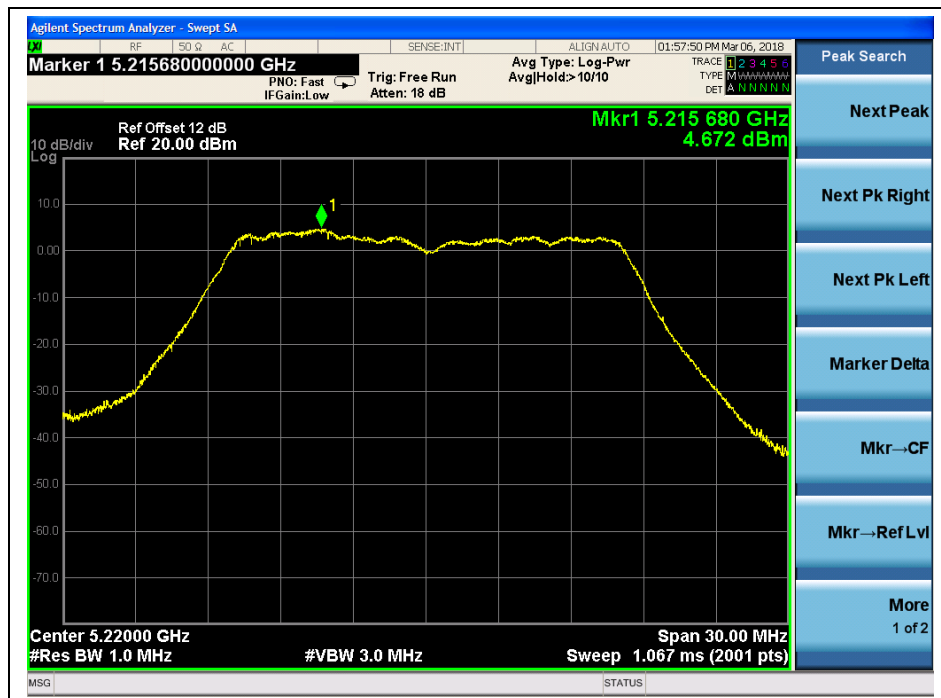
(Channel 157, 5785MHz, 802.11a, ANT J3)



(Channel 165, 5825MHz, 802.11a, ANT J3)



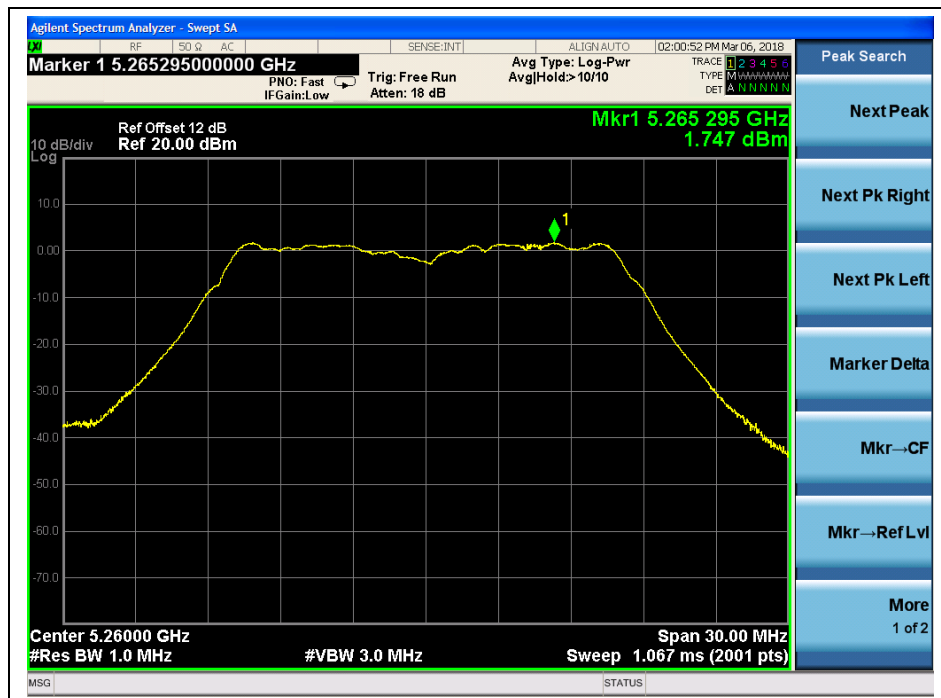
(Channel 36, 5180MHz, 802.11a, ANT J4)



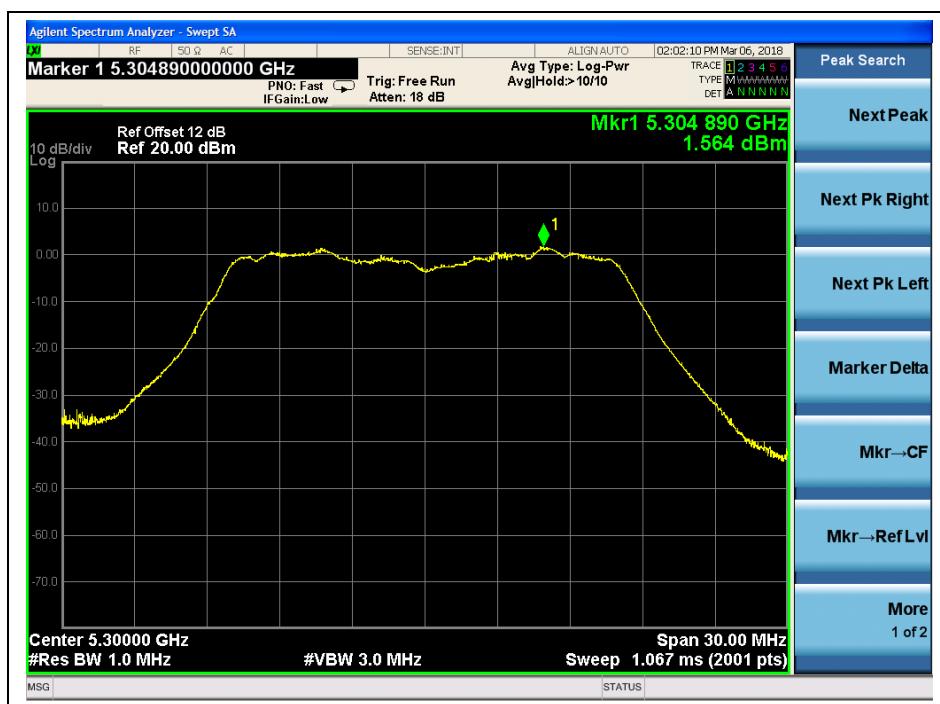
(Channel 44, 5220 MHz, 802.11a, ANT J4)



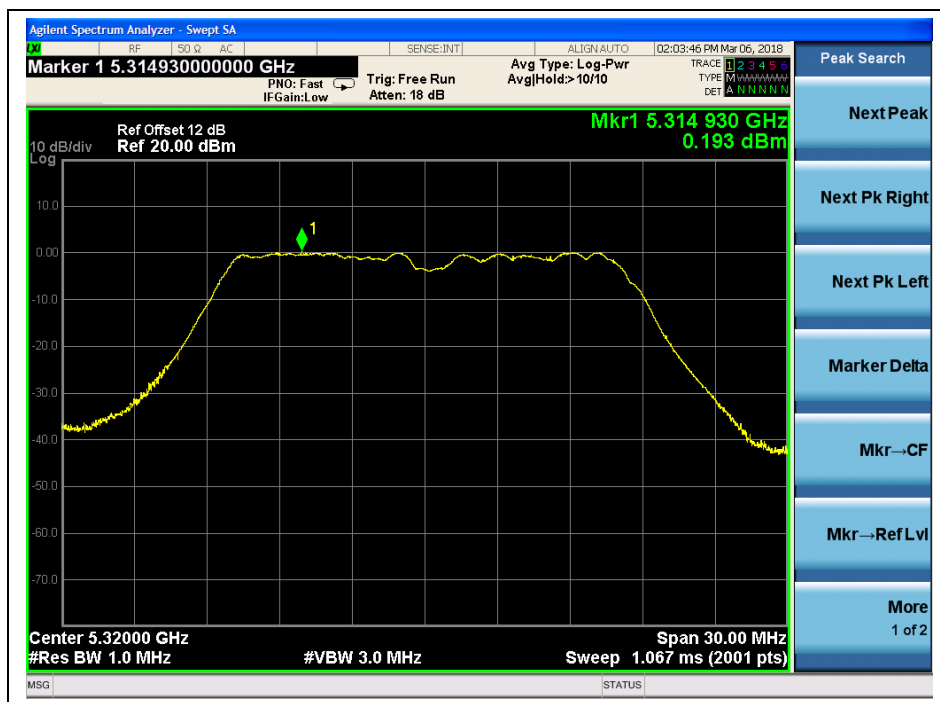
(Channel 48, 5240MHz, 802.11a, ANT J4)



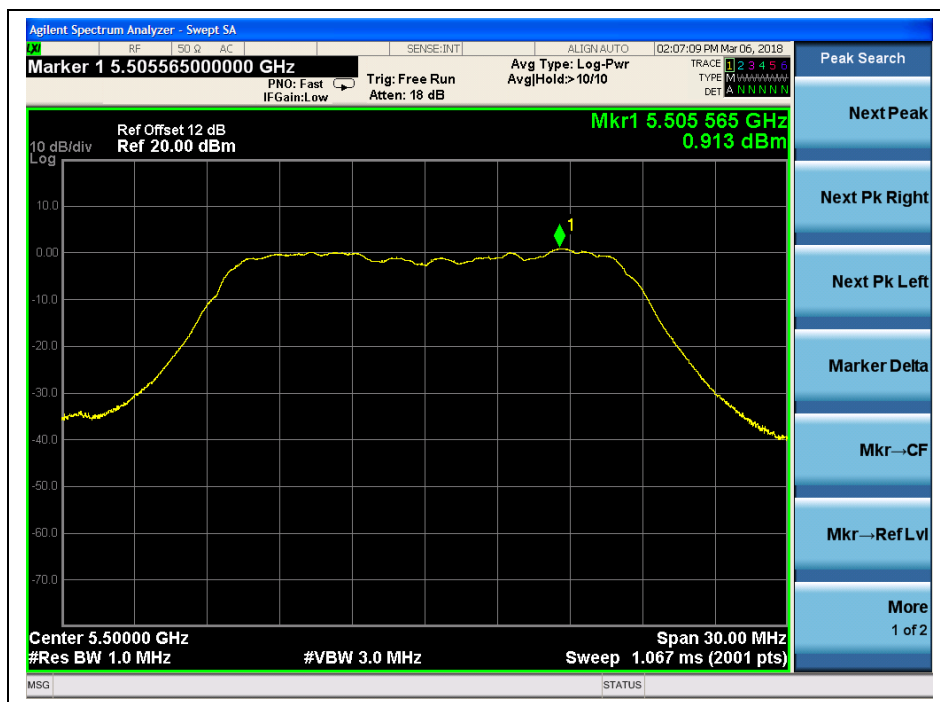
(Channel 52, 5260MHz, 802.11a, ANT J4)



(Channel 60, 5300 MHz, 802.11a, ANT J4)



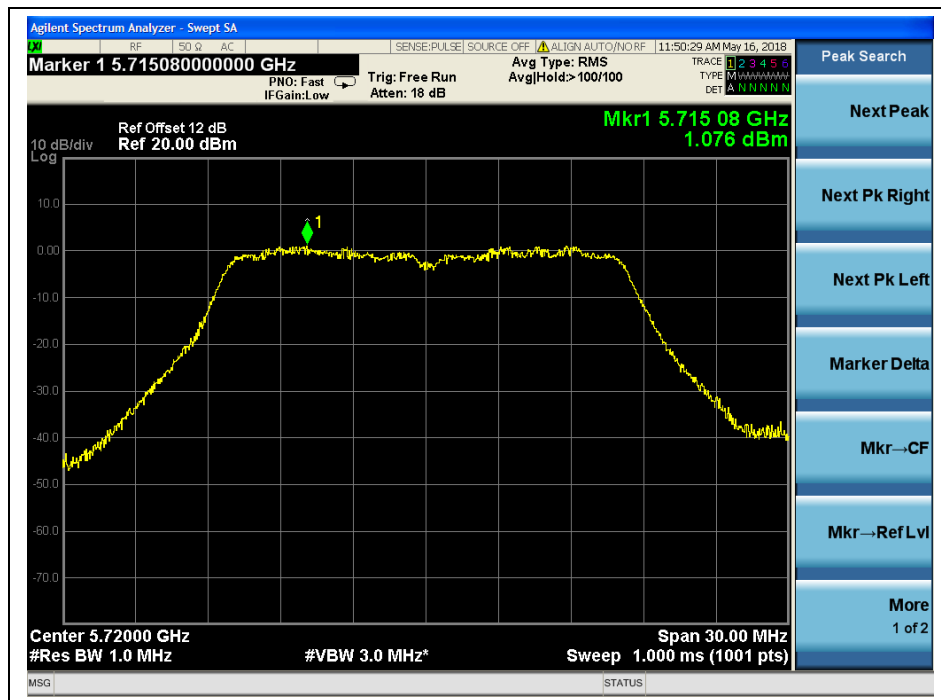
(Channel 64, 5320MHz, 802.11a, ANT J4)



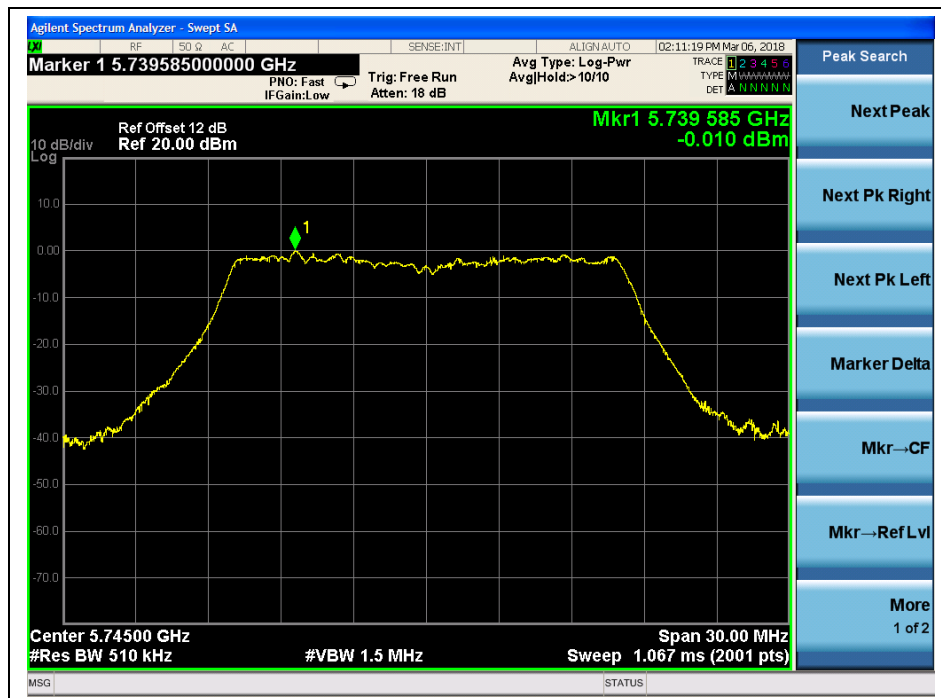
(Channel 100, 5500MHz, 802.11a, ANT J4)



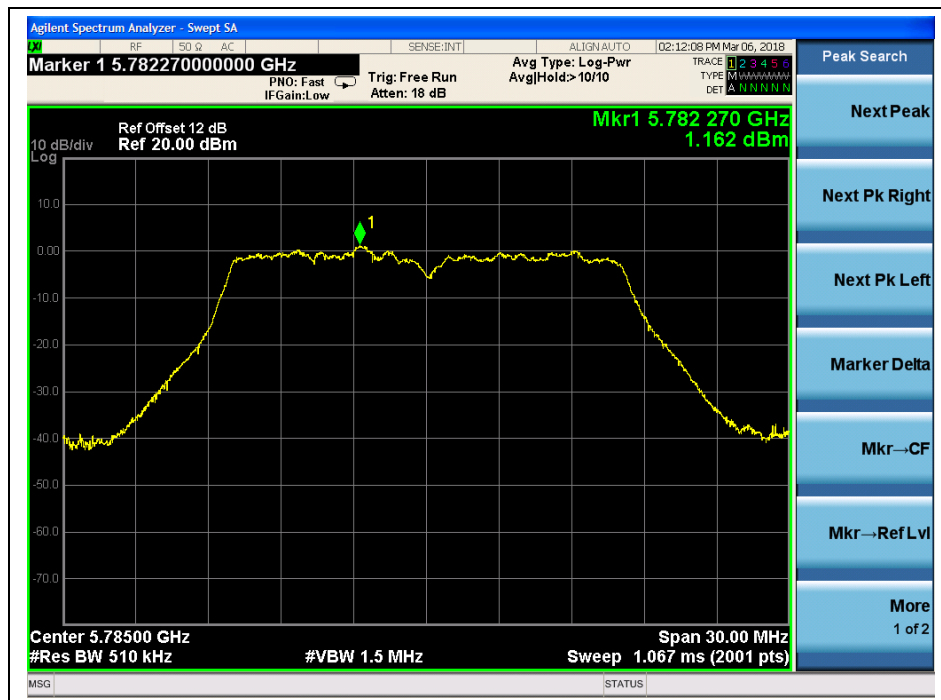
(Channel 120, 5600 MHz, 802.11a, ANT J4)



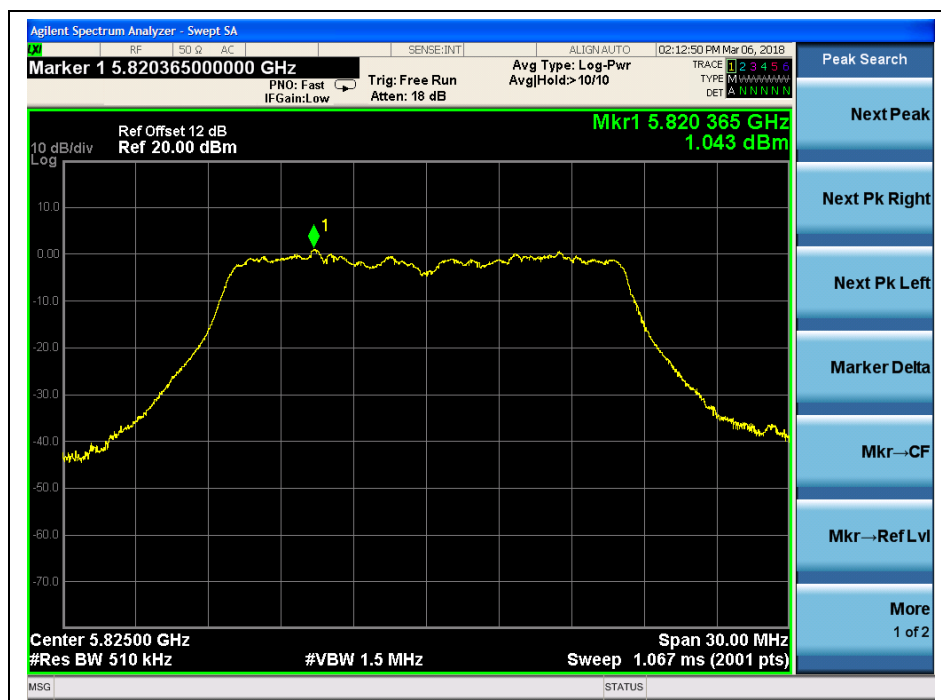
(Channel 144, 5720MHz, 802.11a, ANT J4)



(Channel 149, 5745MHz, 802.11a, ANT J4)



(Channel 157, 5785MHz, 802.11a, ANT J4)



(Channel 165, 5825MHz, 802.11a, ANT J4)



802.11n (HT20) Test mode

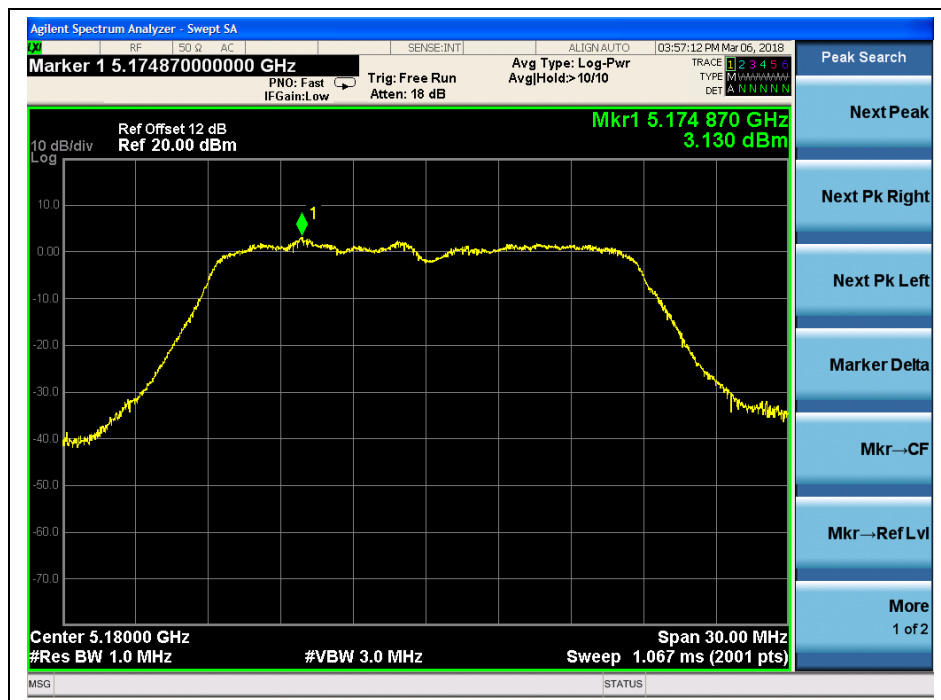
A. Test Verdict:

Channel	Frequency (MHz)	ANT J3		ANT J4		Limit (dBm/MHz)
		Measured PSD (dBm/MHz)	Calibrated with Duty cycle factor	Measured PSD (dBm/MHz)	Calibrated with Duty cycle factor	
36	5180	3.13	4.55	3.29	4.76	11
44	5220	2.28	3.70	1.42	2.89	
48	5240	1.50	2.92	1.06	2.53	
52	5260	1.16	2.58	0.71	2.18	
60	5300	1.47	2.89	-0.29	1.18	
64	5320	0.16	1.58	-0.43	1.04	
100	5500	-1.76	-0.34	-0.03	1.44	
120	5600	-2.49	-1.07	-0.24	1.23	
144	5720	-0.66	0.76	-0.57	0.90	
Channel	Frequency (MHz)	Measured PSD (dBm/500KHz)	Calibrated with Duty cycle factor	Measured PSD (dBm/500KHz)	Calibrated with Duty cycle factor	Limit (dBm/500KHz)
149	5745	-2.05	-0.63	-1.69	-0.22	30
157	5785	-2.77	-1.35	-0.82	0.65	
165	5825	-3.60	-2.18	-0.12	1.35	

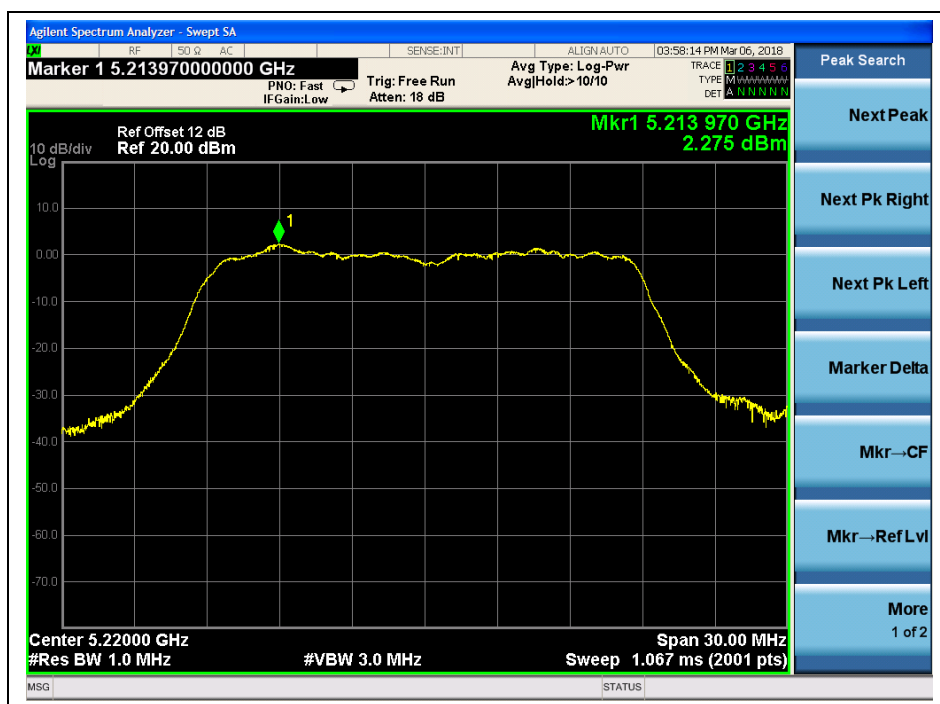
Total Peak Power spectral density (ANT J3+ANT J4)

Channel	Frequency (MHz)	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
36	5180	7.666	10.99	PASS
44	5220	6.324		
48	5240	5.739		
52	5260	5.395		
60	5300	5.128		
64	5320	4.328		
100	5500	3.651		
120	5600	3.241		
144	5720	3.841		
Channel	Frequency (MHz)	Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
149	5745	2.590	29.99	PASS
157	5785	2.775		
165	5825	2.945		

Note: Directional gain = 3.0dBi + 10log(2) = 6.01dBi > 6dBi, so the power spectral density limit shall be 11-(6.01-6) = 10.99 dBm/MHz for 5.18-5.24 GHz band, 5.26-5.32 GHz band, 5.50-5.70 GHz band and 30-(6.01-6) = 29.99 dBm/500KHz for 5.745-5.825 GHz band.

B. Test Plots


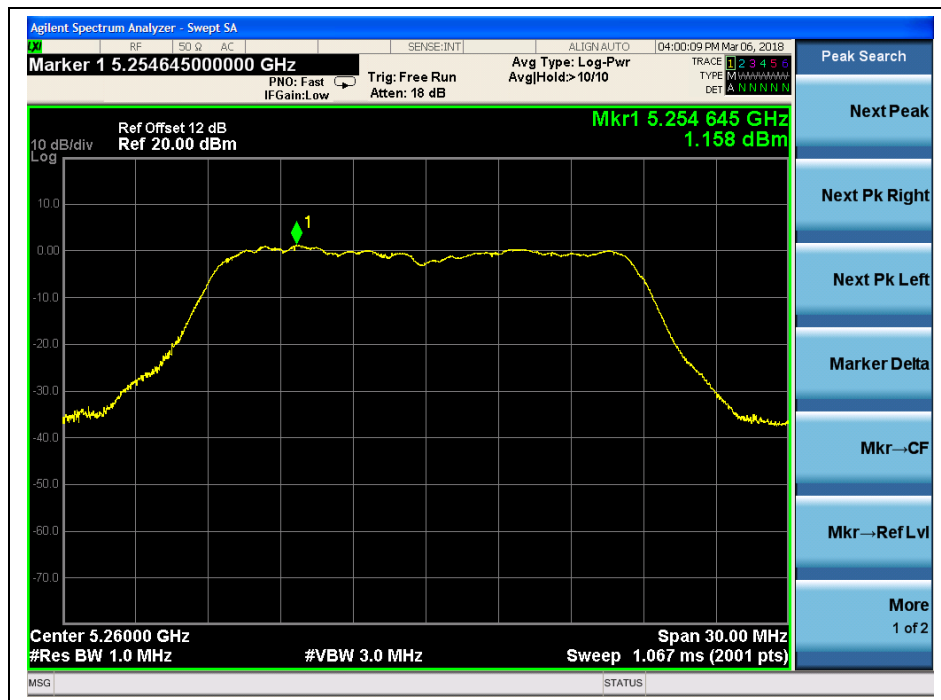
(Channel 36, 5180MHz, 802.11 n (HT20), ANT J3)



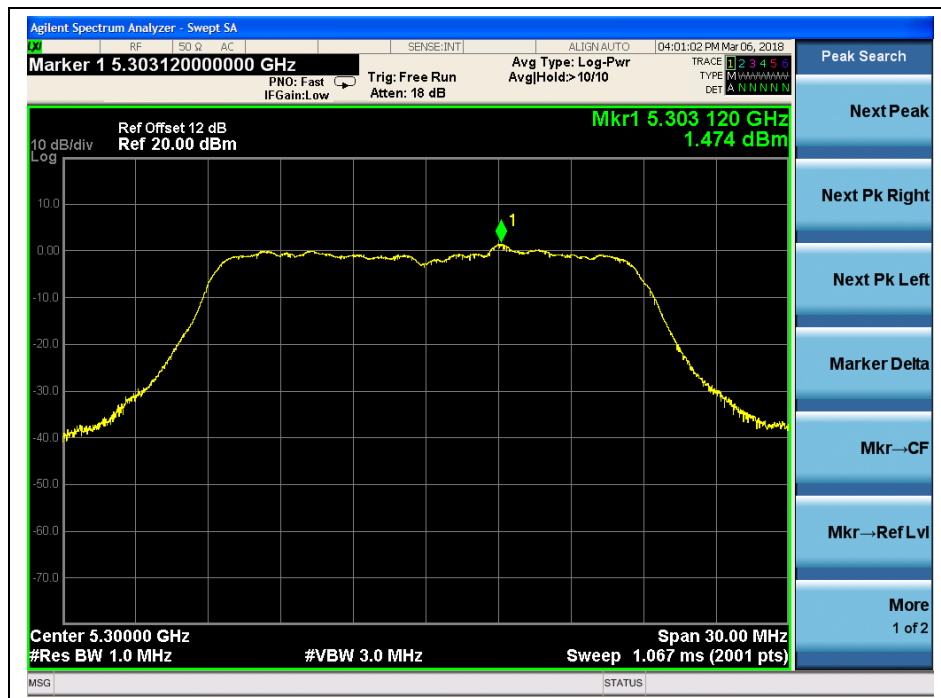
(Channel 44, 5220 MHz, 802.11 n (HT20), ANT J3)



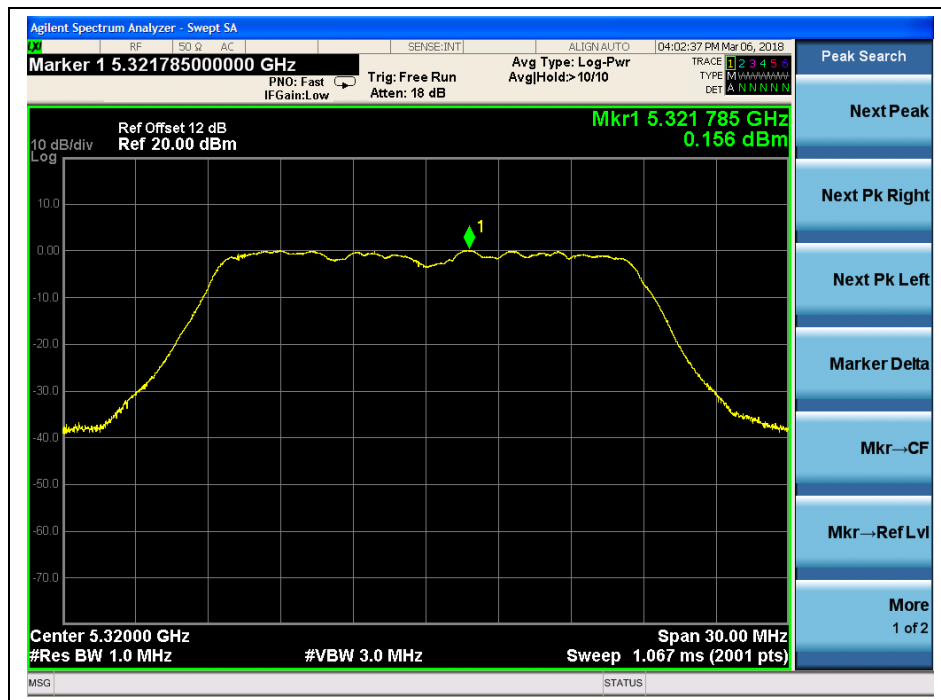
(Channel 48, 5240MHz, 802.11 n (HT20), ANT J3)



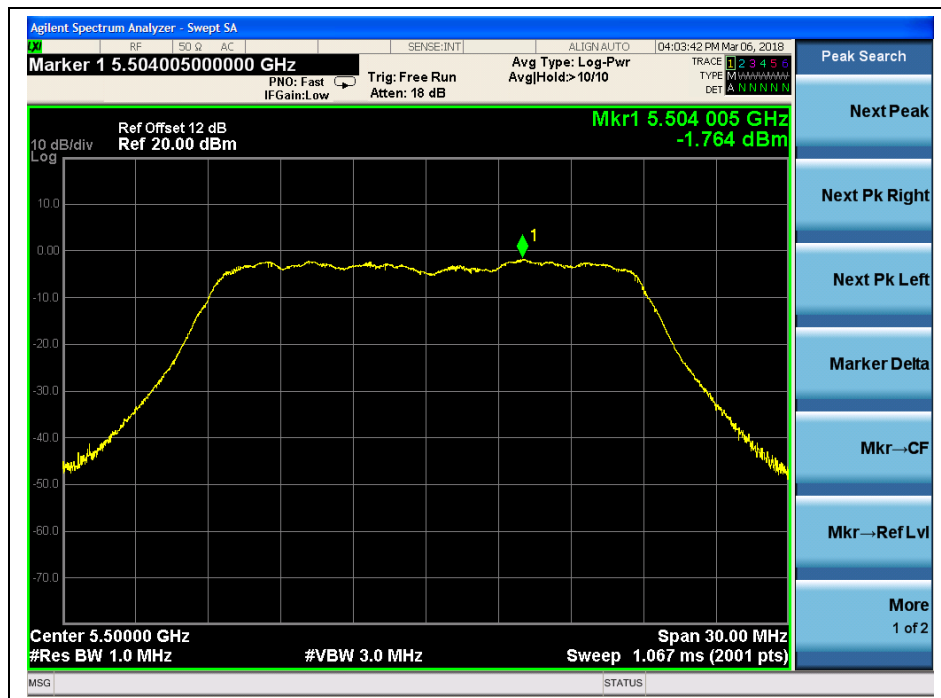
(Channel 52, 5260MHz, 802.11 n (HT20), ANT J3)



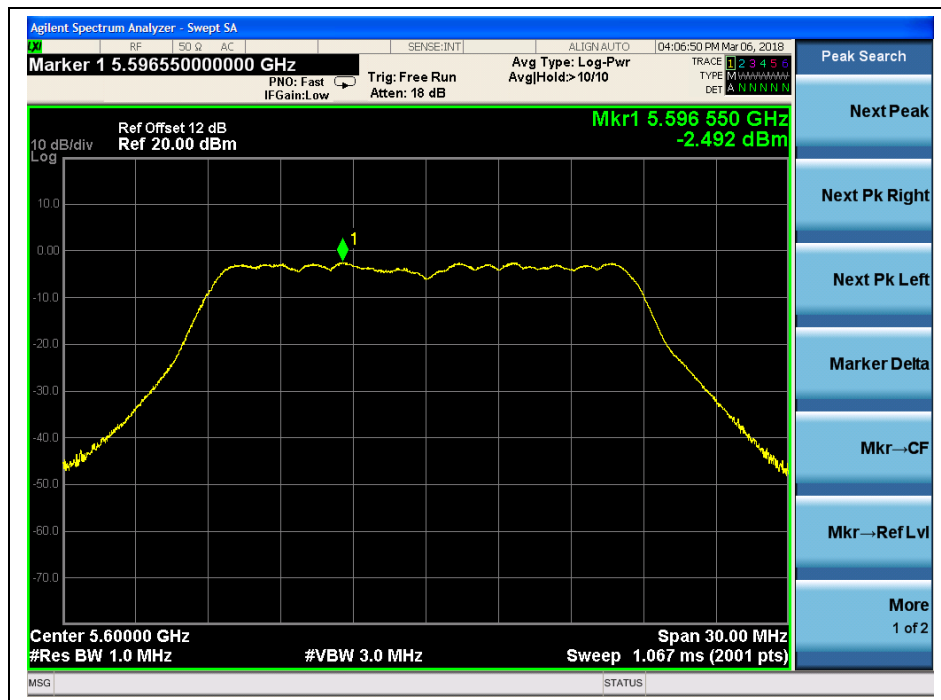
(Channel 60, 5300 MHz, 802.11 n (HT20), ANT J3)



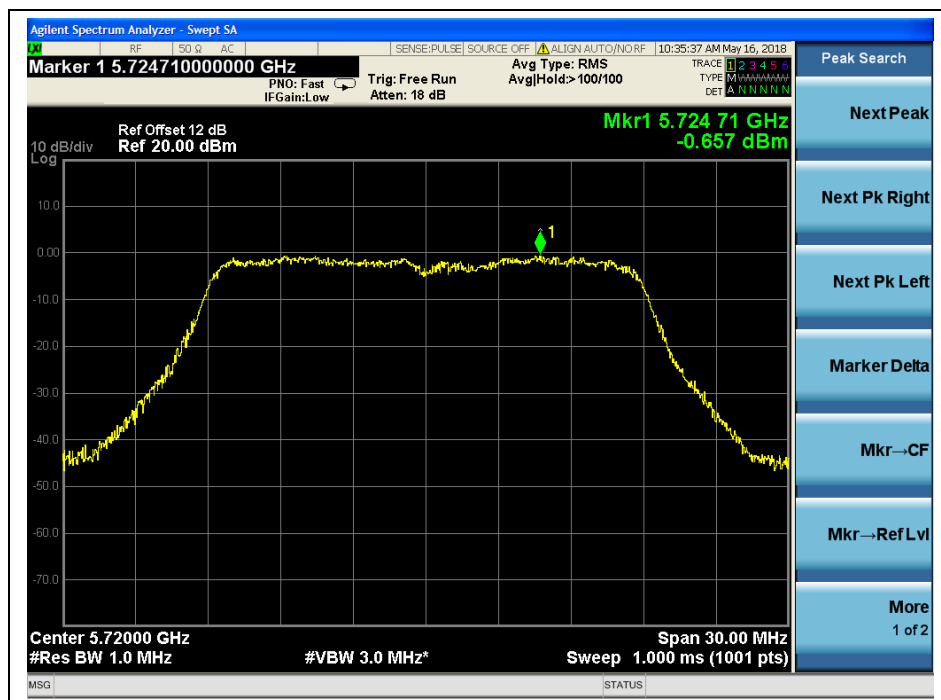
(Channel 64, 5320MHz, 802.11 n (HT20), ANT J3)



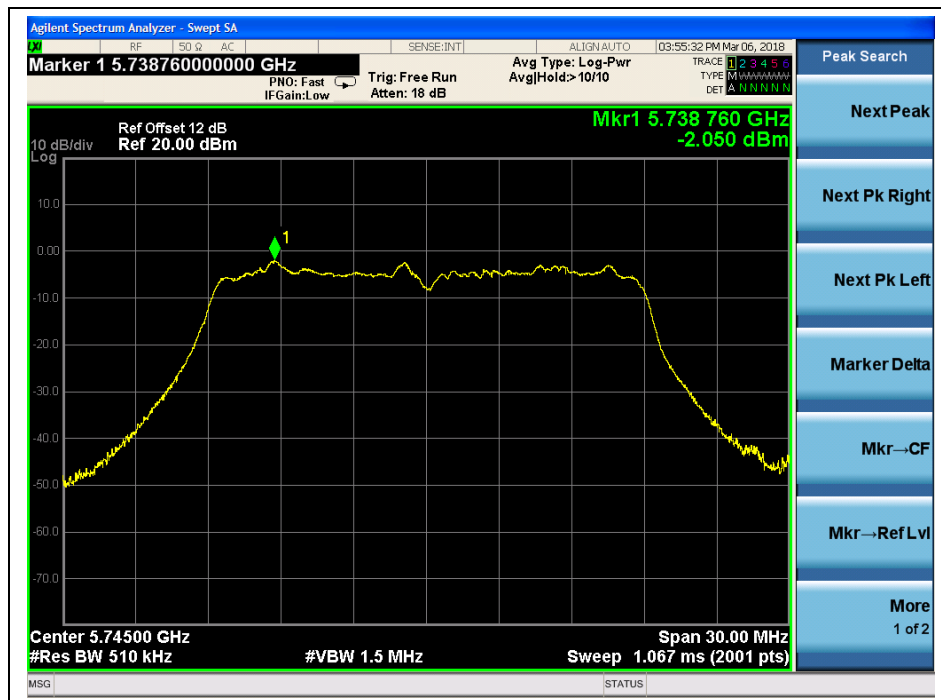
(Channel 100, 5500MHz, 802.11 n (HT20), ANT J3)



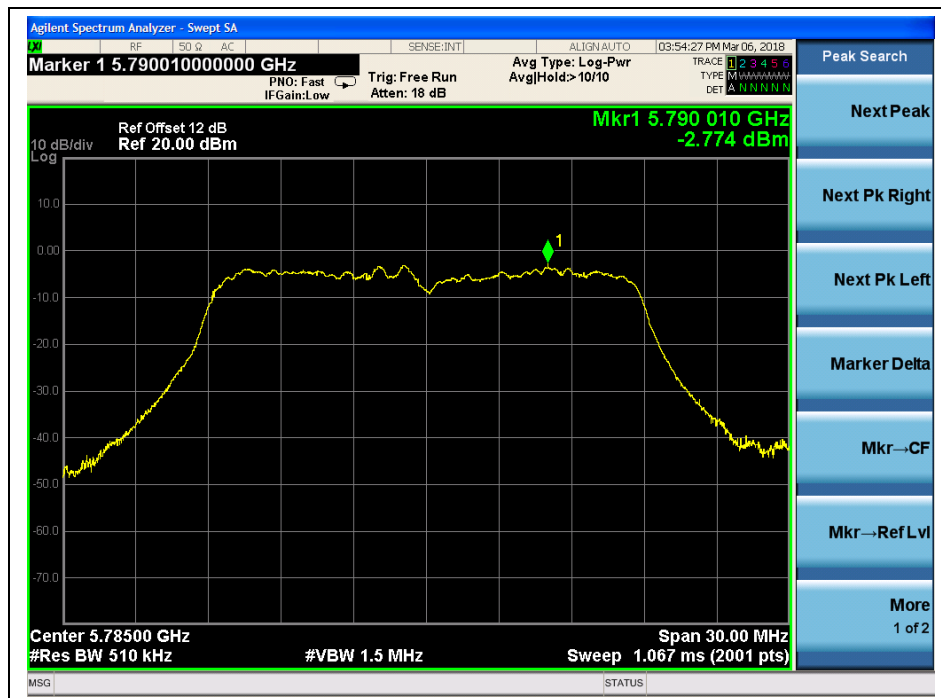
(Channel 120, 5600 MHz, 802.11 n (HT20), ANT J3)



(Channel 144, 5720MHz, 802.11 n (HT20), ANT J3)



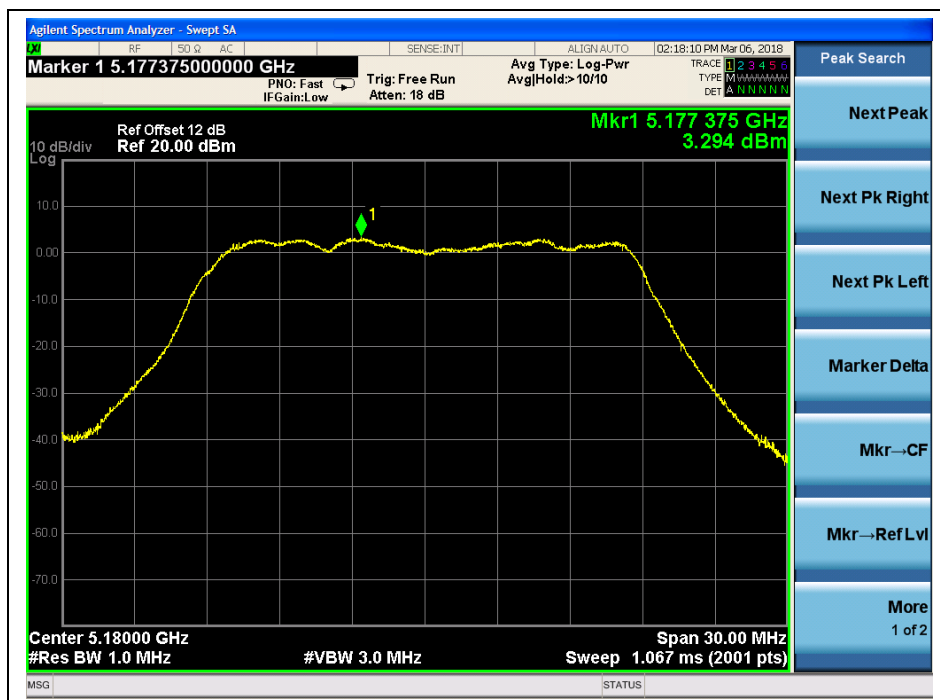
(Channel 149, 5745MHz, 802.11 n (HT20), ANT J3)



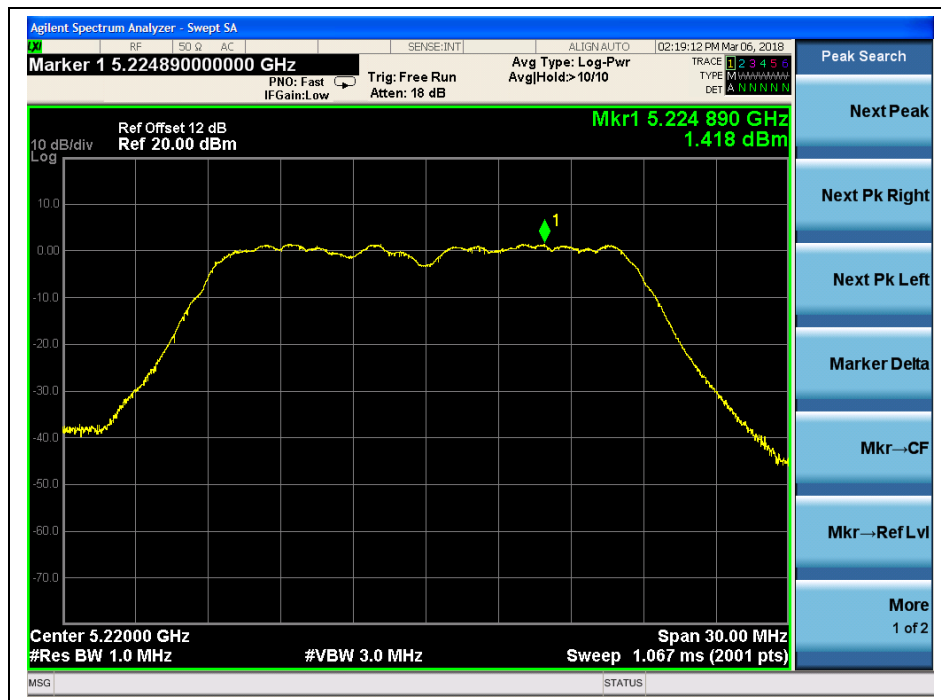
(Channel 157, 5785MHz, 802.11 n (HT20), ANT J3)



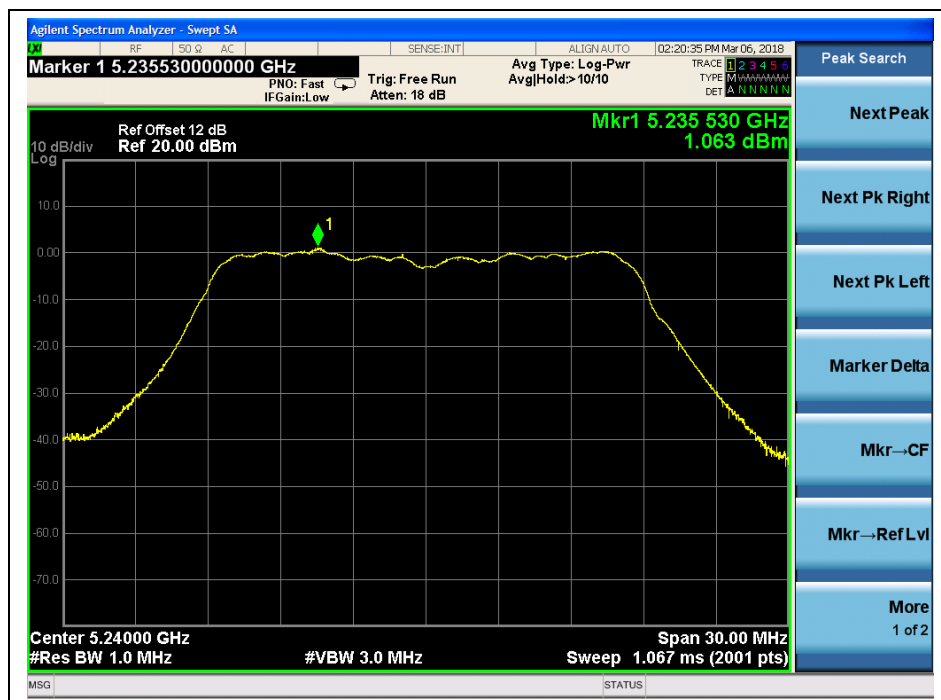
(Channel 165, 5825MHz, 802.11 n (HT20), ANT J3)



(Channel 36, 5180MHz, 802.11 n (HT20), ANT J4)



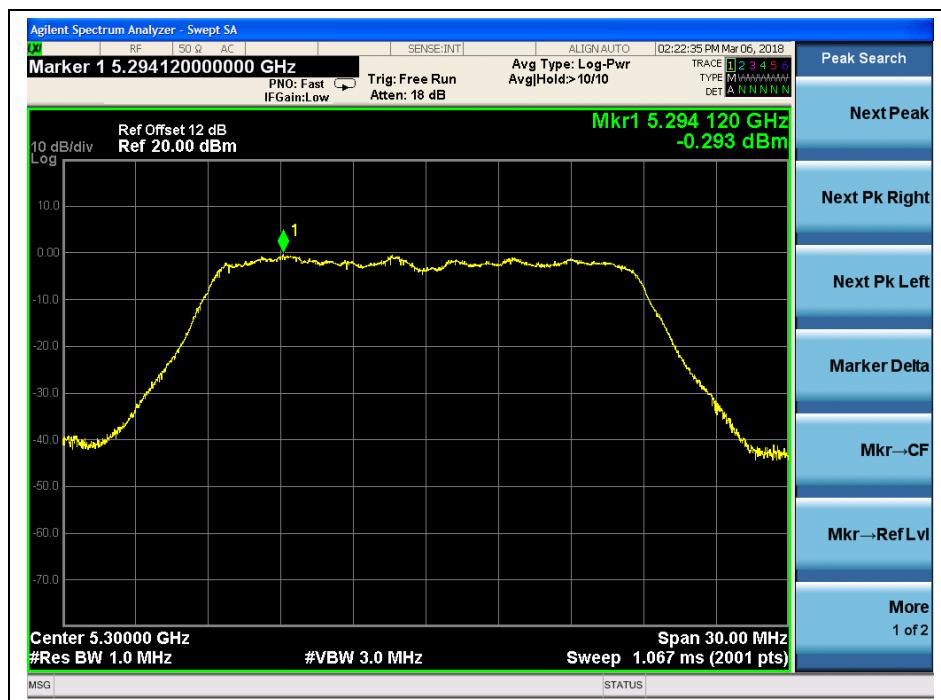
(Channel 44, 5220 MHz, 802.11 n (HT20), ANT J4)



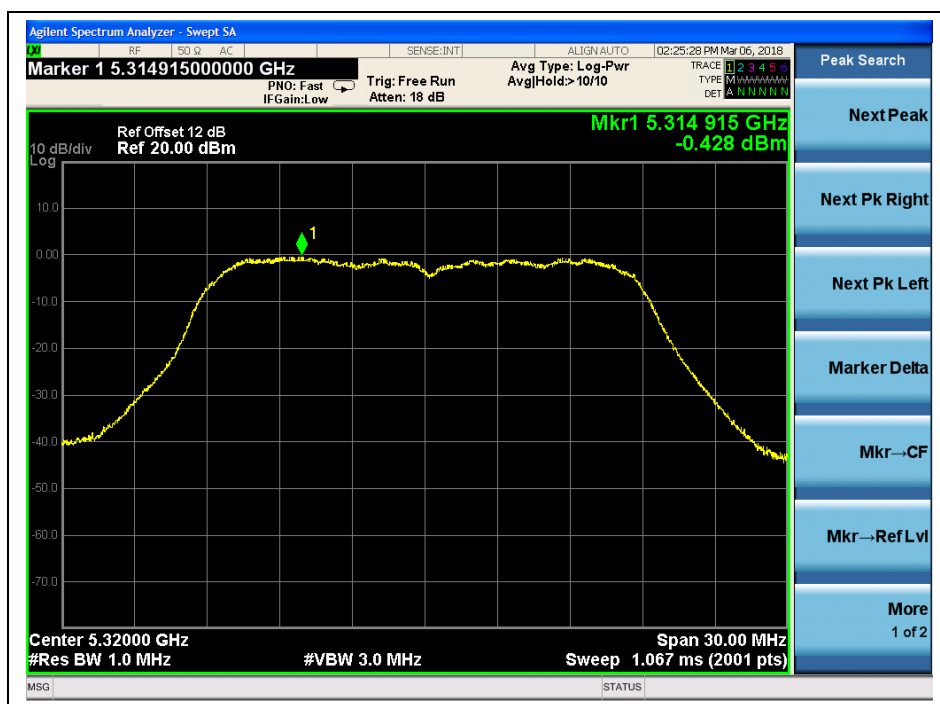
(Channel 48, 5240MHz, 802.11 n (HT20), ANT J4)



(Channel 52, 5260MHz, 802.11 n (HT20), ANT J4)



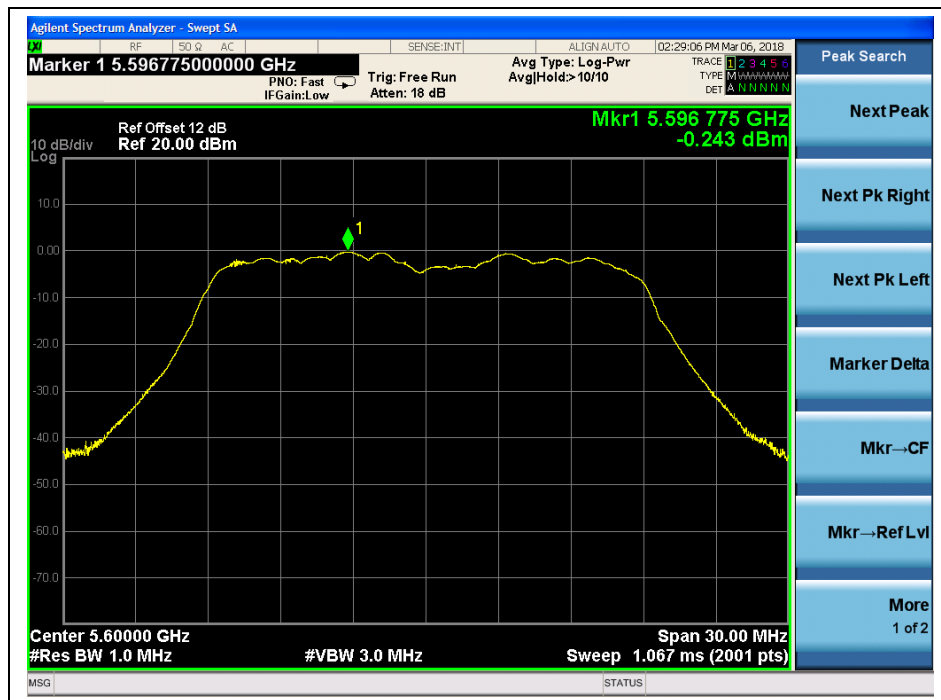
(Channel 60, 5300 MHz, 802.11 n (HT20), ANT J4)



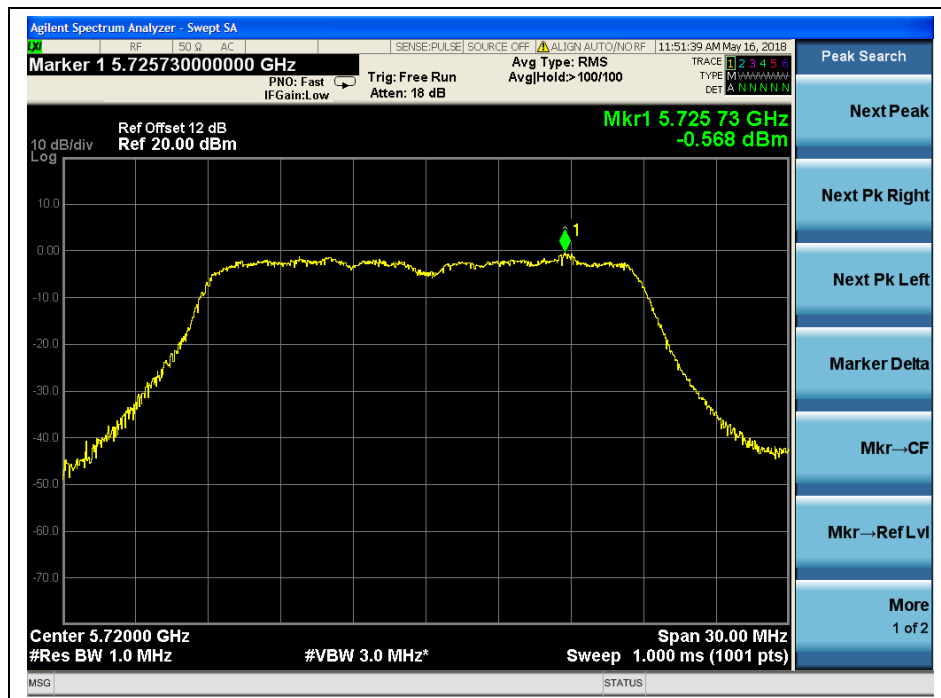
(Channel 64, 5320MHz, 802.11 n (HT20), ANT J4)



(Channel 100, 5500MHz, 802.11 n (HT20), ANT J4)



(Channel 120, 5600 MHz, 802.11 n (HT20), ANT J4)



(Channel 144, 5720MHz, 802.11 n (HT20), ANT J4)