

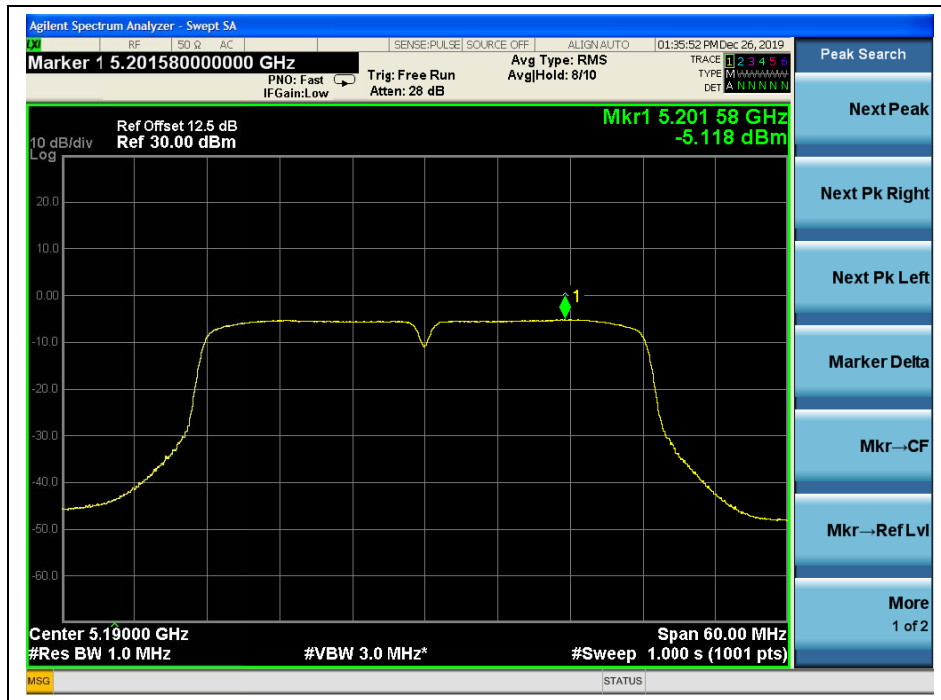


802.11n (HT40) Test mode

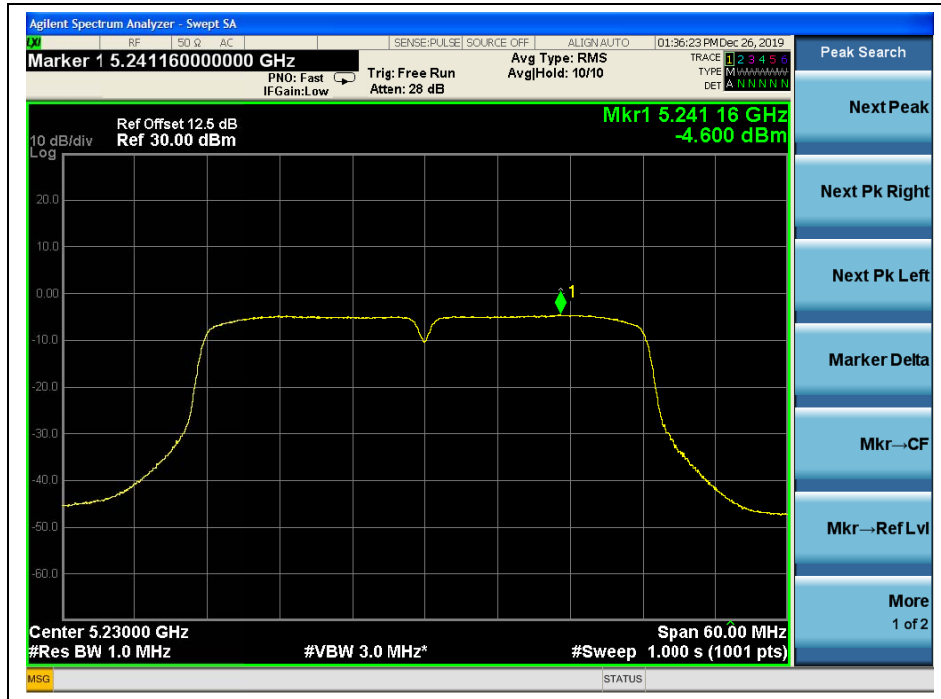
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
38	5190	-5.12	11	PASS
46	5230	-4.60		
54	5270	-4.01		
62	5310	-3.45		
102	5510	-4.86		
126	5630	-4.93		
142	5710	-4.51		
Channel	Frequency (MHz)	Measured PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
142	5710	-7.16	30	PASS
151	5755	-7.75		
159	5795	-8.02		

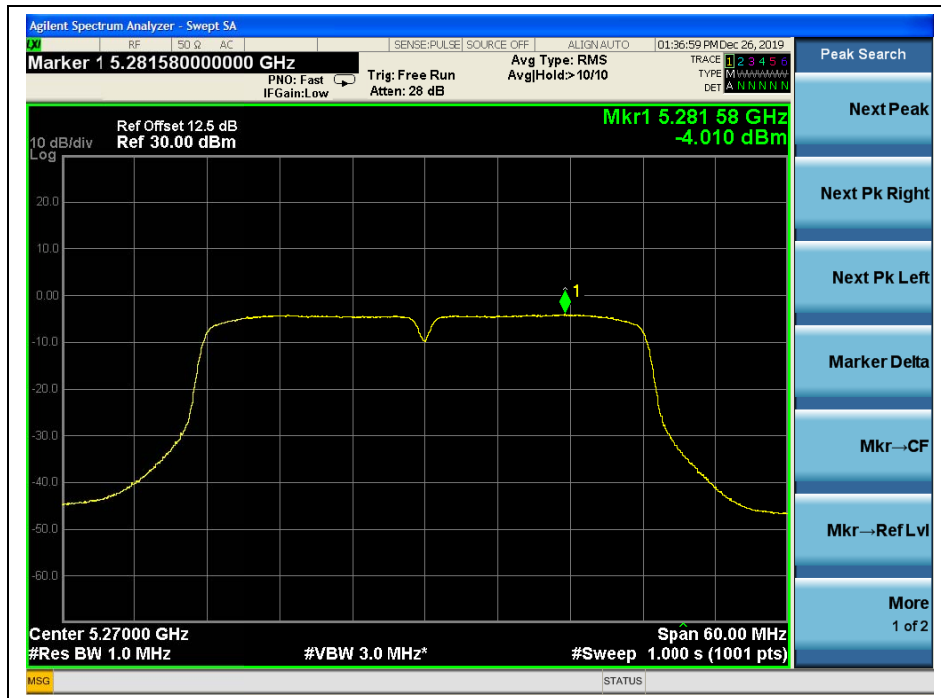
B. Test Plots



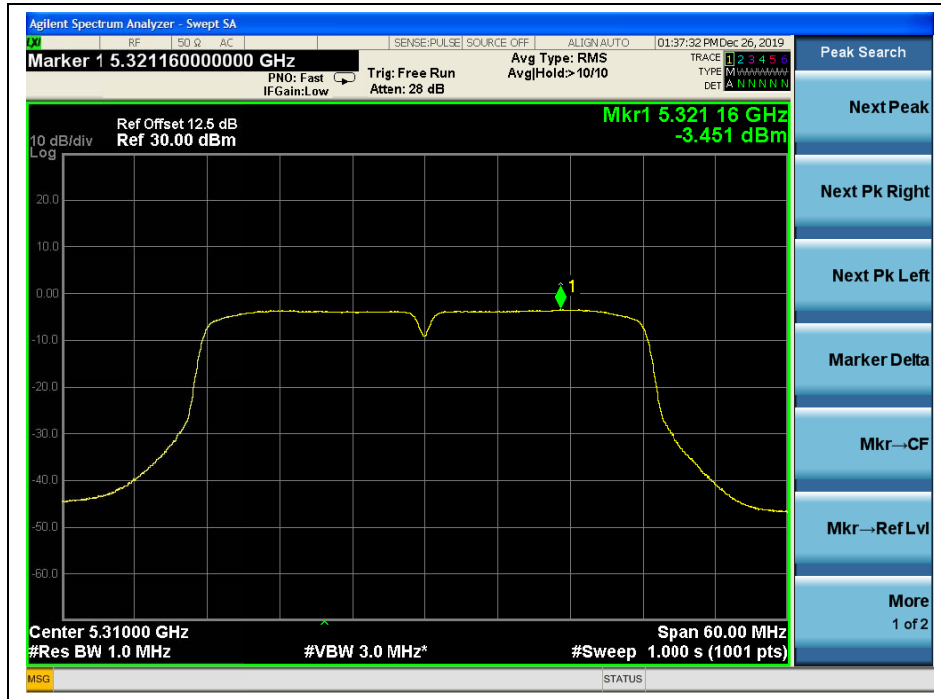
(Channel 38, 5190MHz, 802.11n (HT40))



(Channel 46, 5230 MHz, 802.11n (HT40))



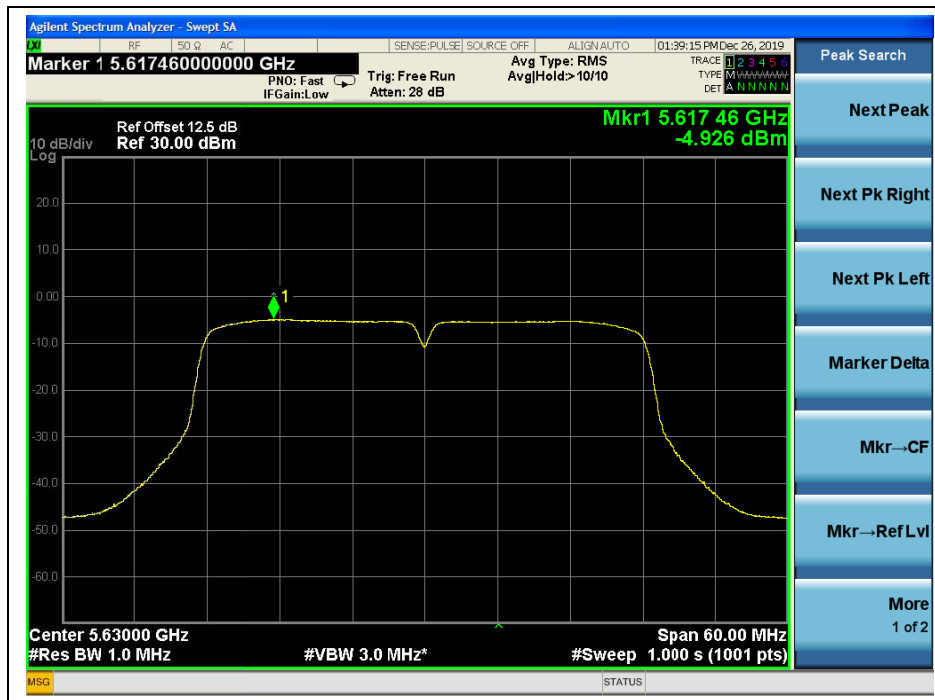
(Channel 54, 5270MHz, 802.11n (HT40))



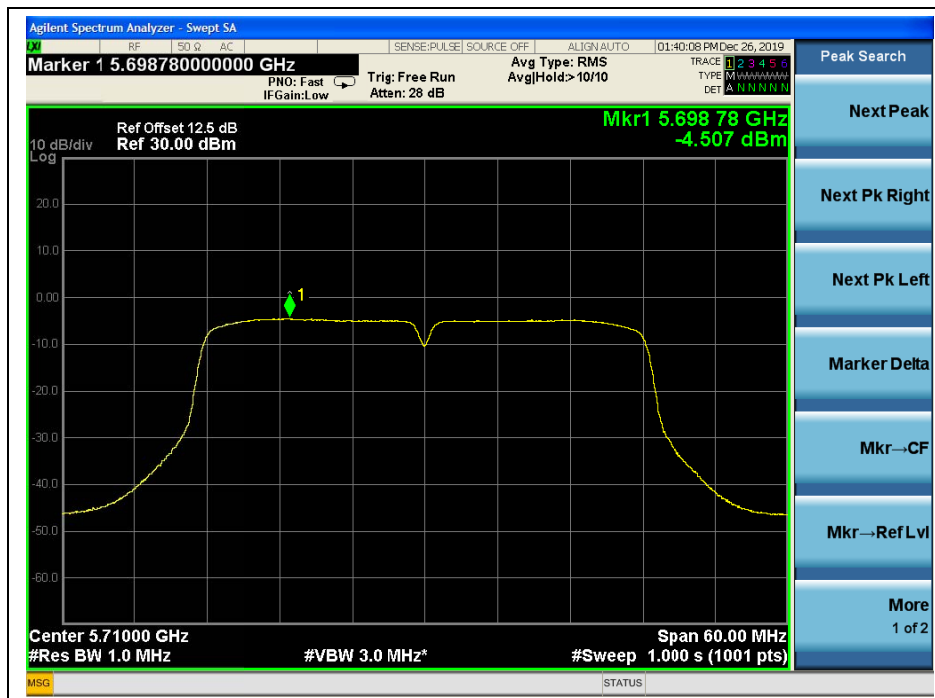
(Channel 62, 5310 MHz, 802.11n (HT40))



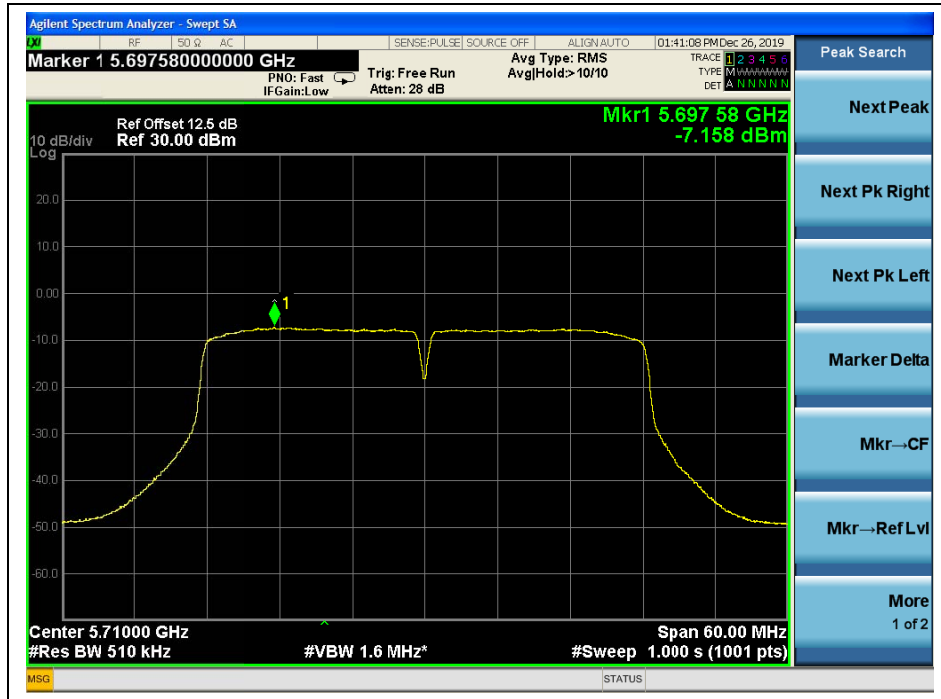
(Channel 102, 5510MHz, 802.11n (HT40))



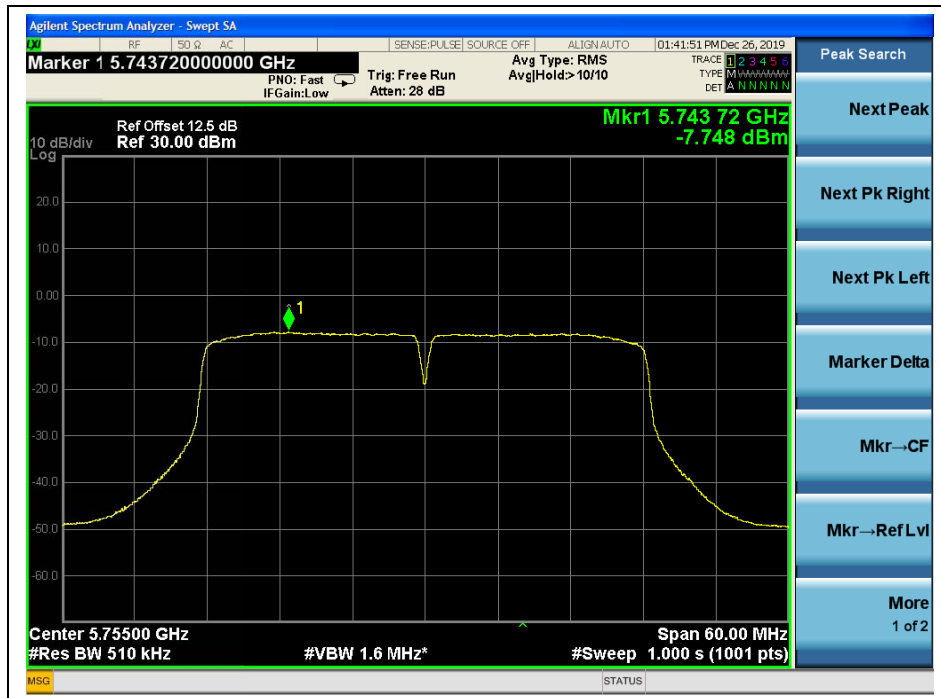
(Channel 126, 5630 MHz, 802.11n (HT40))



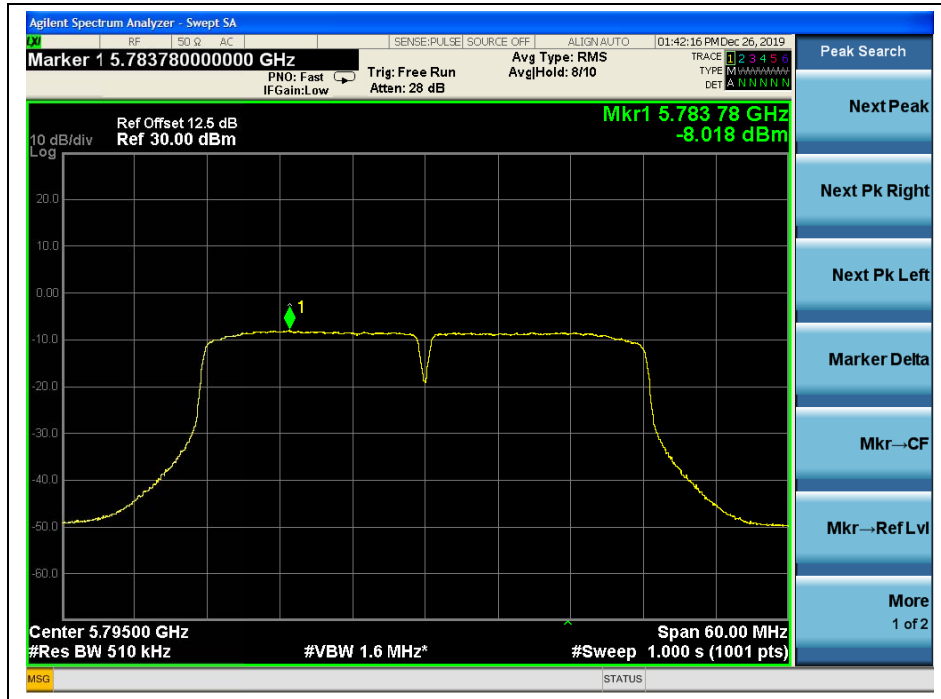
(Channel 142, 5710MHz, 802.11n (HT40))



(Channel 142, 5710MHz, 802.11n (HT40))



(Channel 151, 5755 MHz, 802.11n (HT40))



(Channel 159, 5795MHz, 802.11n (HT40))



802.11ac (VHT20) Test mode

A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
36	5180	-2.50	11	PASS
44	5220	-2.27		
48	5240	-1.95		
52	5260	-1.91		
60	5300	-1.36		
64	5320	-0.92		
100	5500	-2.95		
120	5600	-3.02		
144	5720	-2.73		
Channel	Frequency (MHz)	Measured PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
144	5720	-5.64	30	PASS
149	5745	-6.09		
157	5785	-6.51		
165	5825	-6.76		

B. Test Plots



(Channel 36, 5180MHz, 802.11ac (VHT20))



(Channel 44, 5220 MHz, 802.11 ac (VHT20))



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



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



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



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



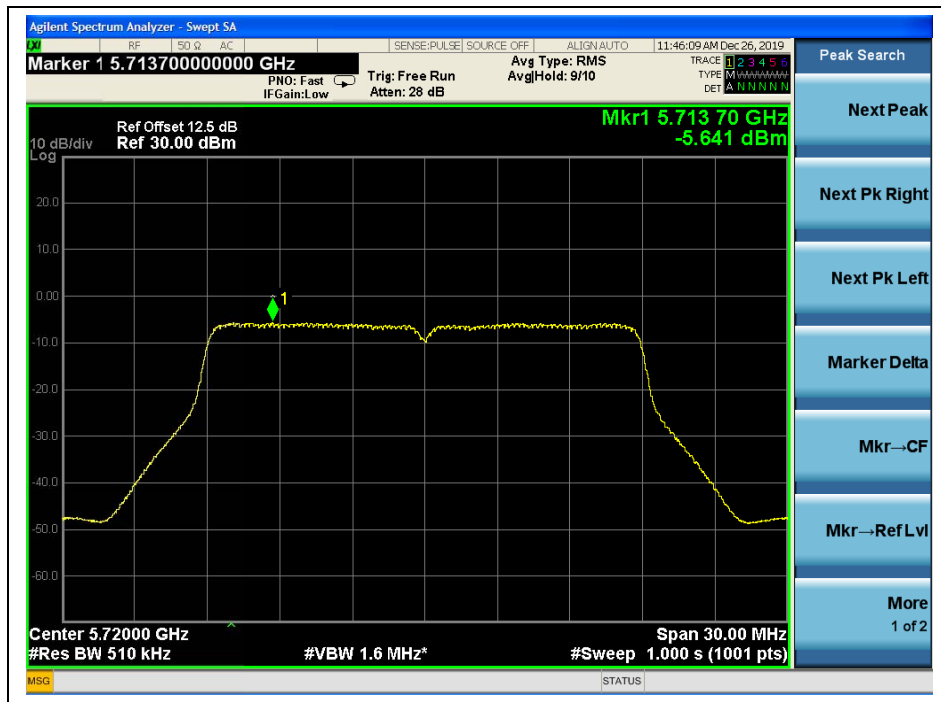
(Channel 100, 5500MHz, 802.11 ac (VHT20))



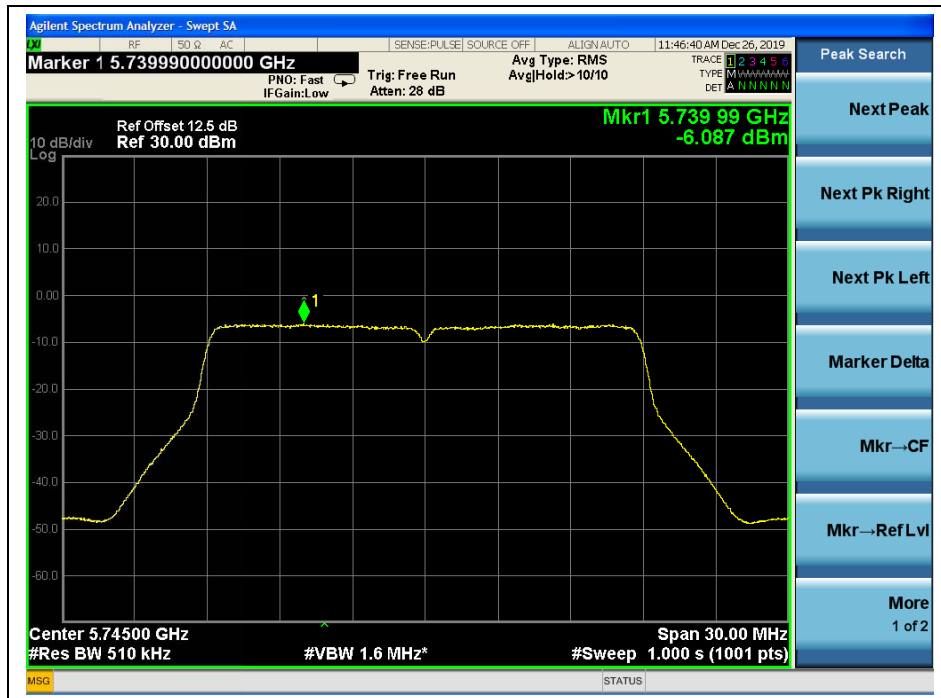
(Channel 120, 5600 MHz, 802.11 ac (VHT20))



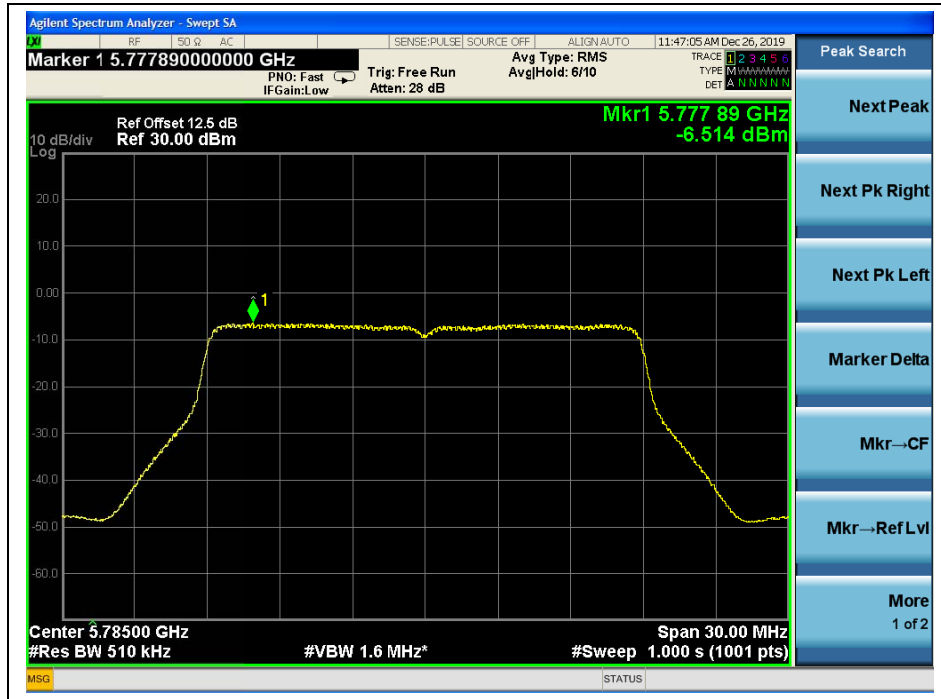
(Channel 144, 5720MHz, 802.11 ac (VHT20))



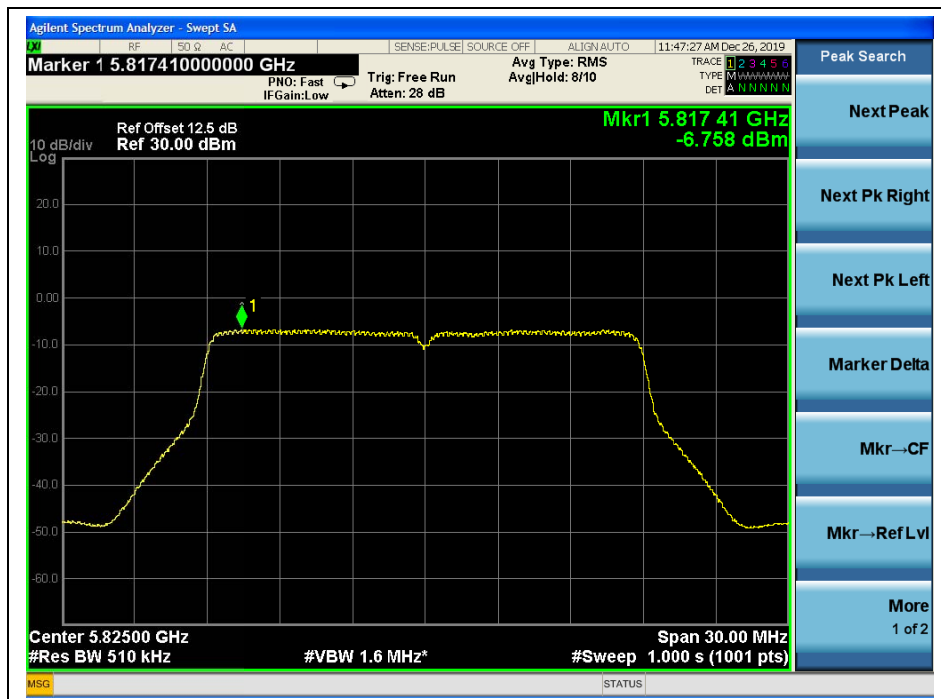
(Channel 144, 5720MHz, 802.11 ac (VHT20))



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



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



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

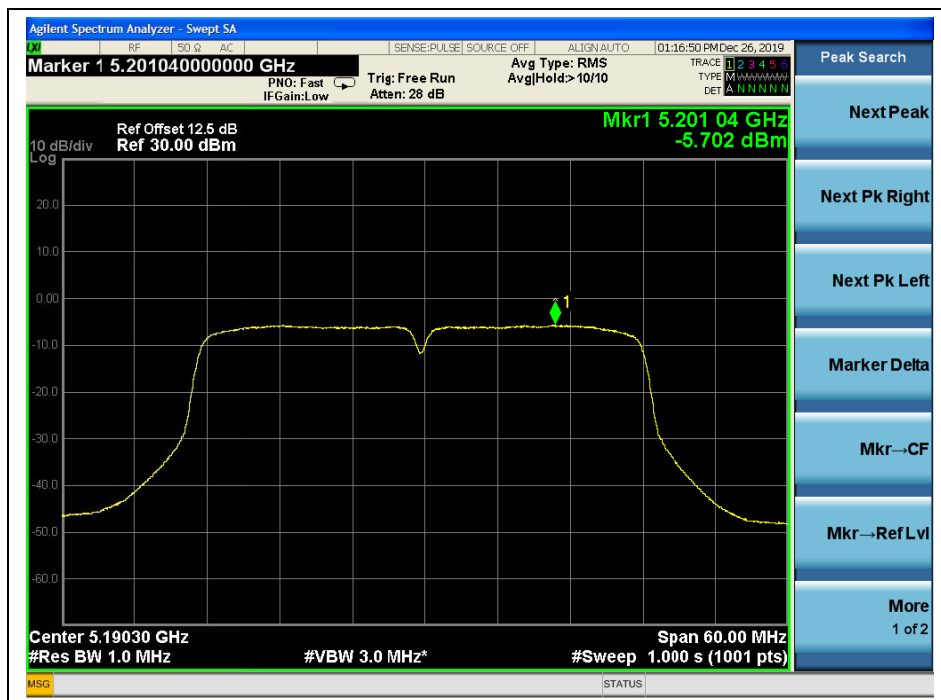


802.11ac (VHT40) Test mode

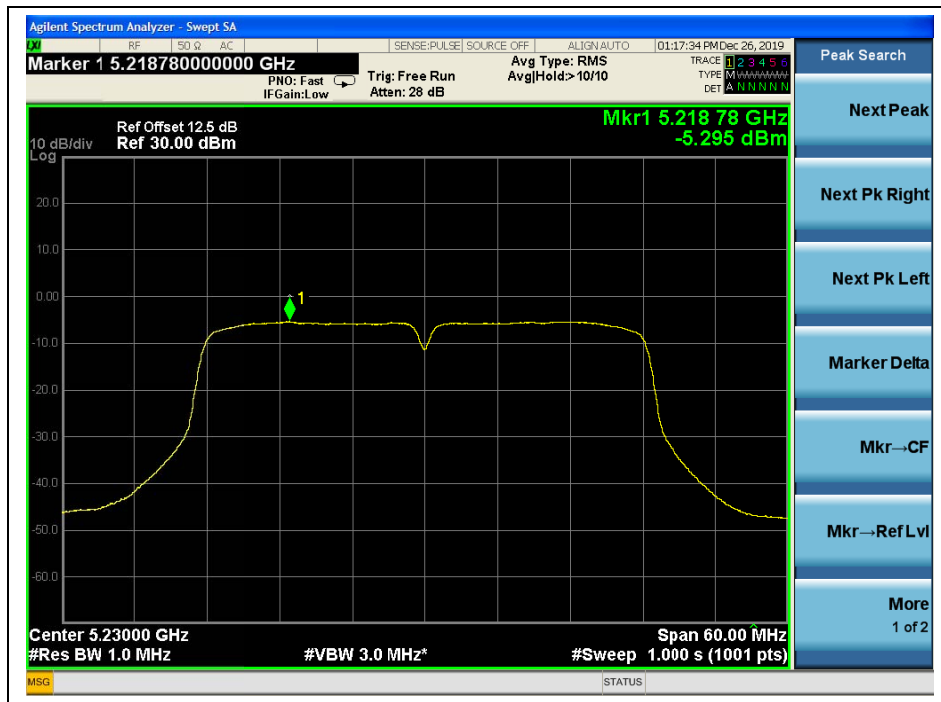
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
38	5190	-5.70	11	PASS
46	5230	-5.30		
54	5270	-4.88		
62	5310	-4.41		
102	5510	-6.26		
126	5630	-6.55		
142	5710	-6.17		
Channel	Frequency (MHz)	Measured PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
142	5710	-9.04	30	PASS
151	5755	-9.39		
155	5795	-9.83		

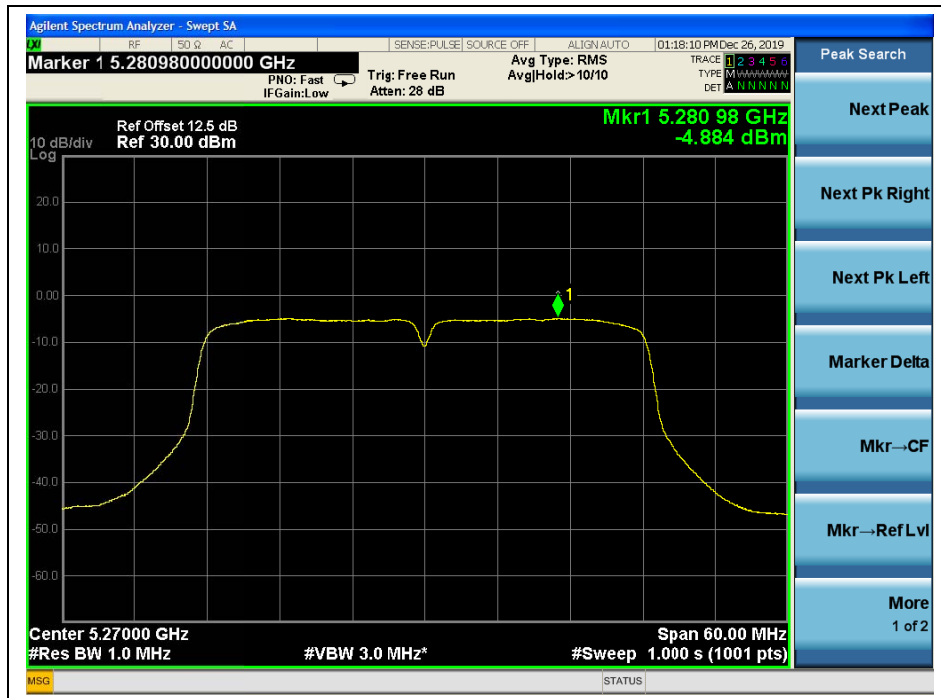
B. Test Plots



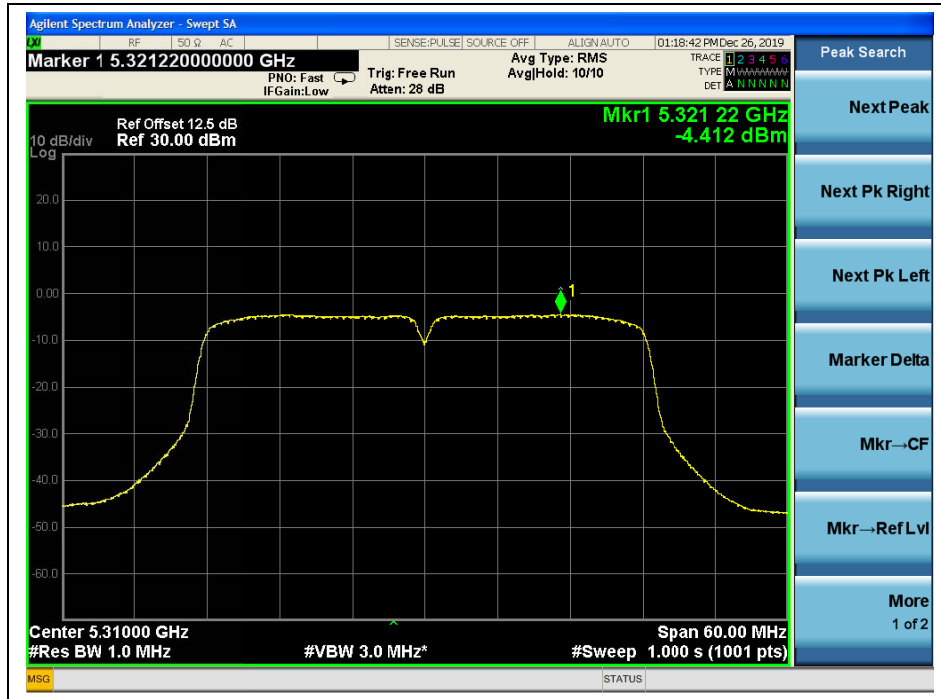
(Channel 38, 5190MHz, 802.11 ac (VHT40))



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



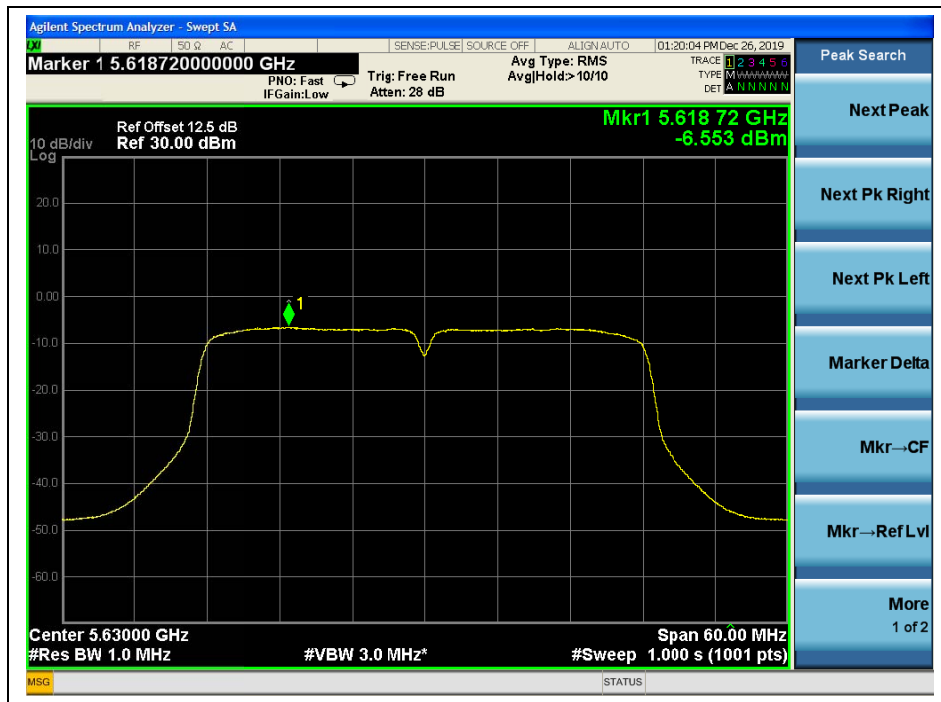
(Channel 54, 5270MHz, 802.11 ac (VHT40))



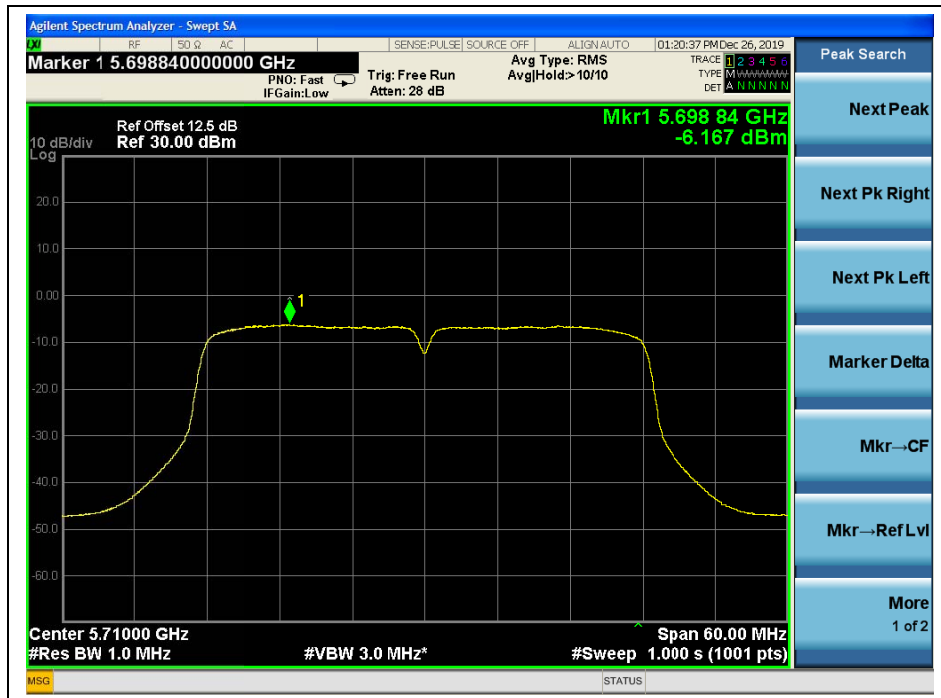
(Channel 62, 5310MHz, 802.11 ac (VHT40))



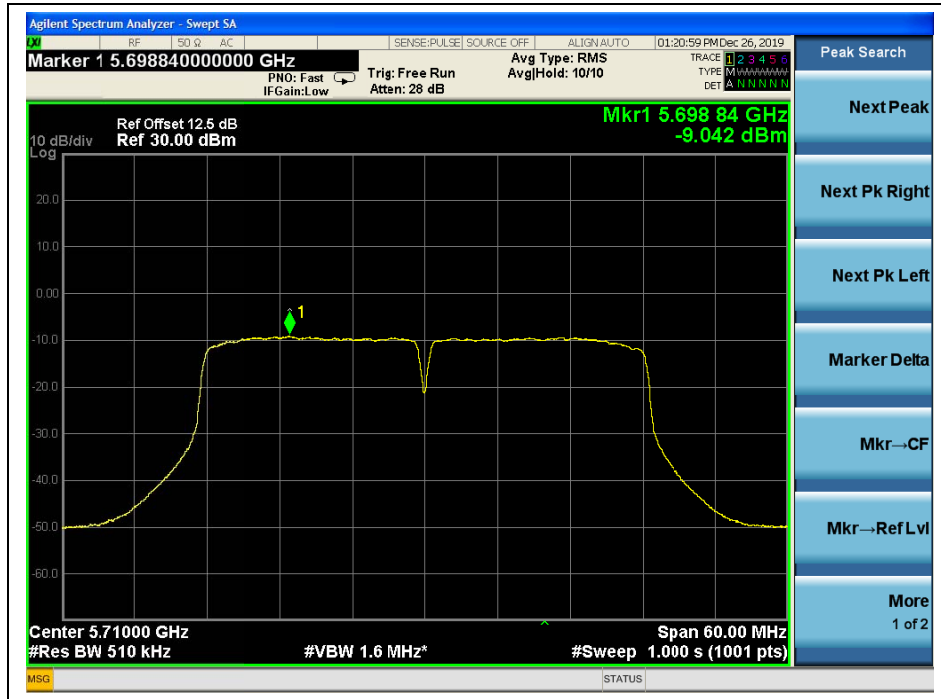
(Channel 102, 5510 MHz, 802.11 ac (VHT40))



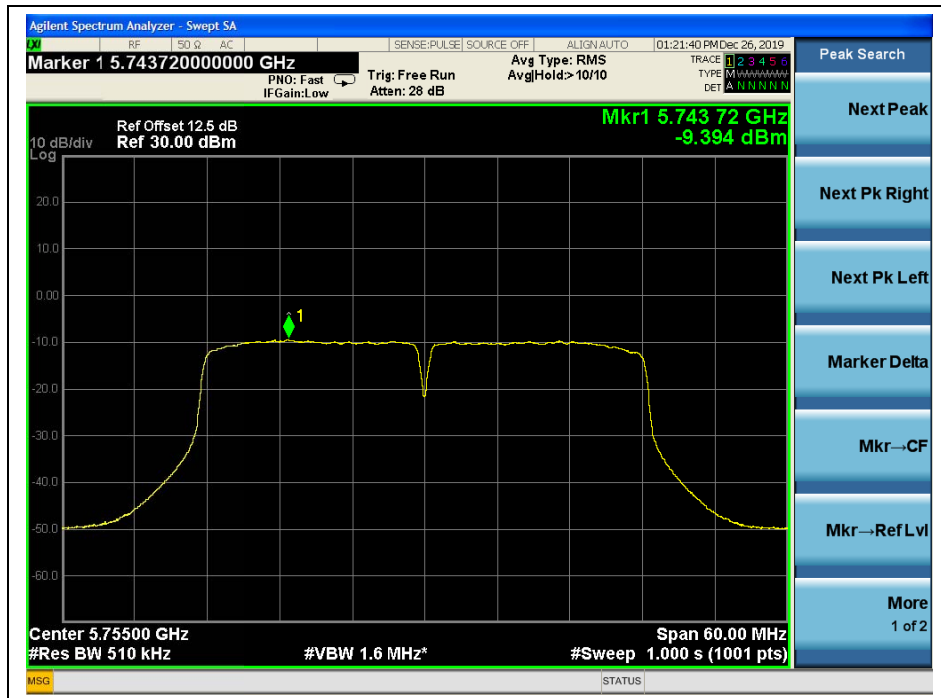
(Channel 126, 5630MHz, 802.11 ac (VHT40))



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



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



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



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

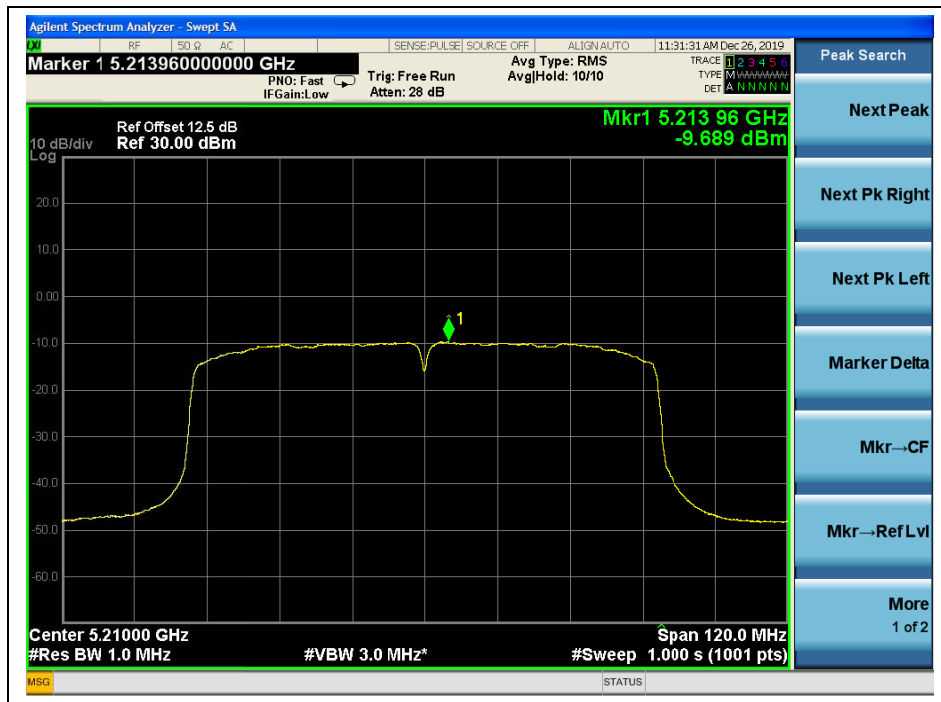


802.11ac (VHT80) Test mode

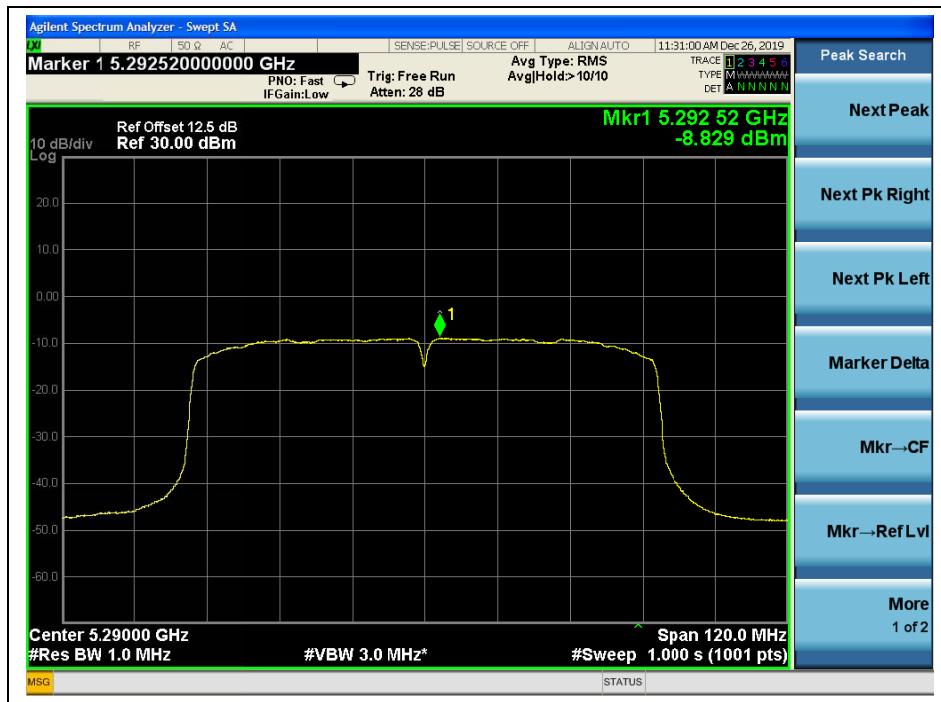
A. Test Verdict:

Channel	Frequency (MHz)	Measured PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
42	5210	-9.69	11	PASS
58	5290	-8.83		
106	5530	-10.64		
122	5610	-10.77		
138	5690	-10.33		
Channel	Frequency (MHz)	Measured PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
138	5690	-13.13	30	PASS
155	5775	-13.34		

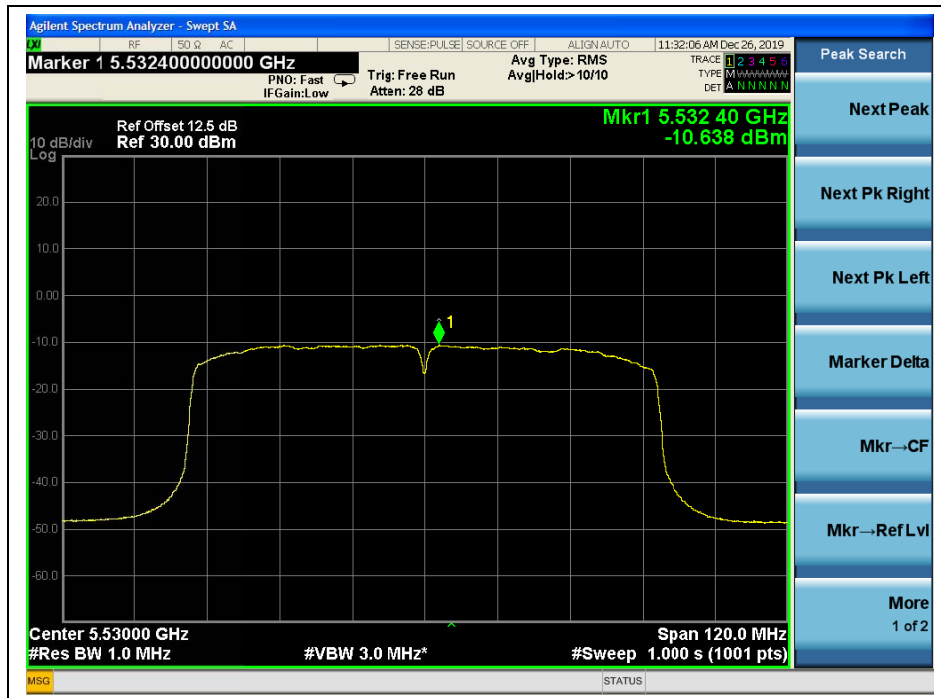
B. Test Plots



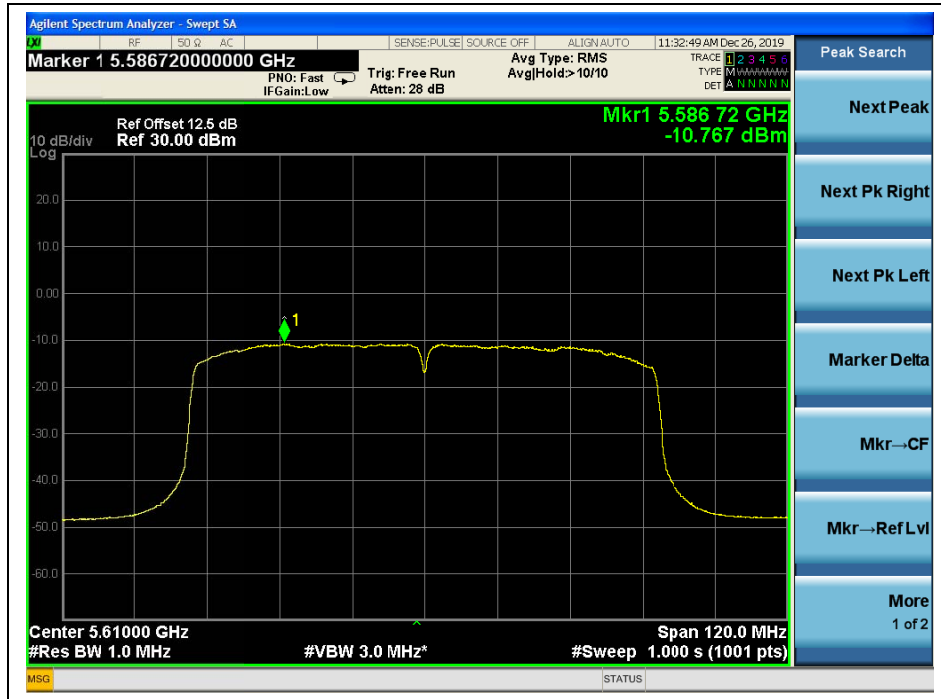
(Channel 42, 5210MHz, 802.11ac (VHT80))



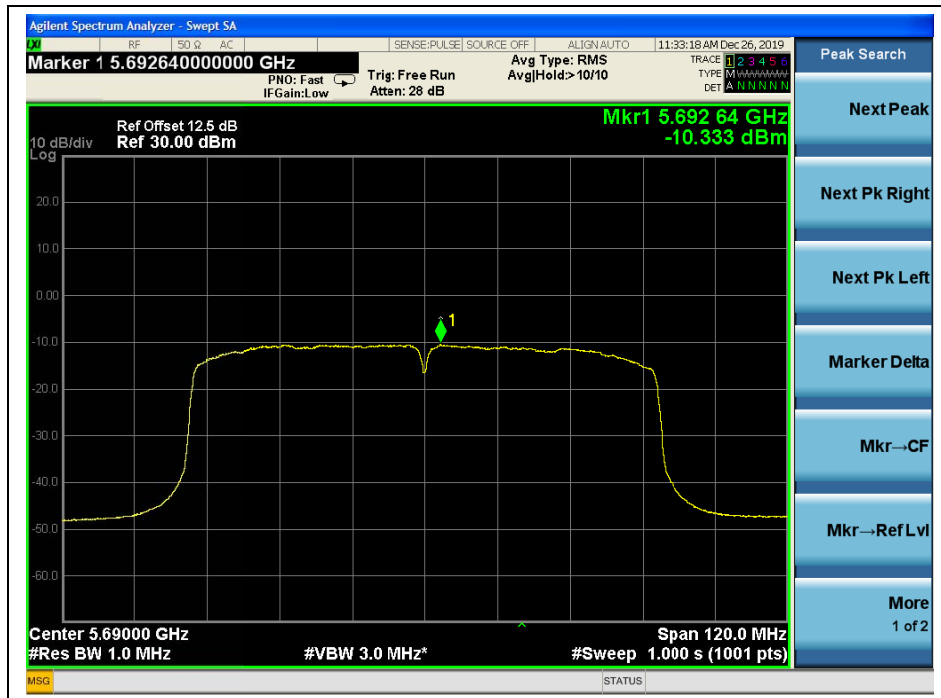
(Channel 58, 5290 MHz, 802.11 ac (VHT80))



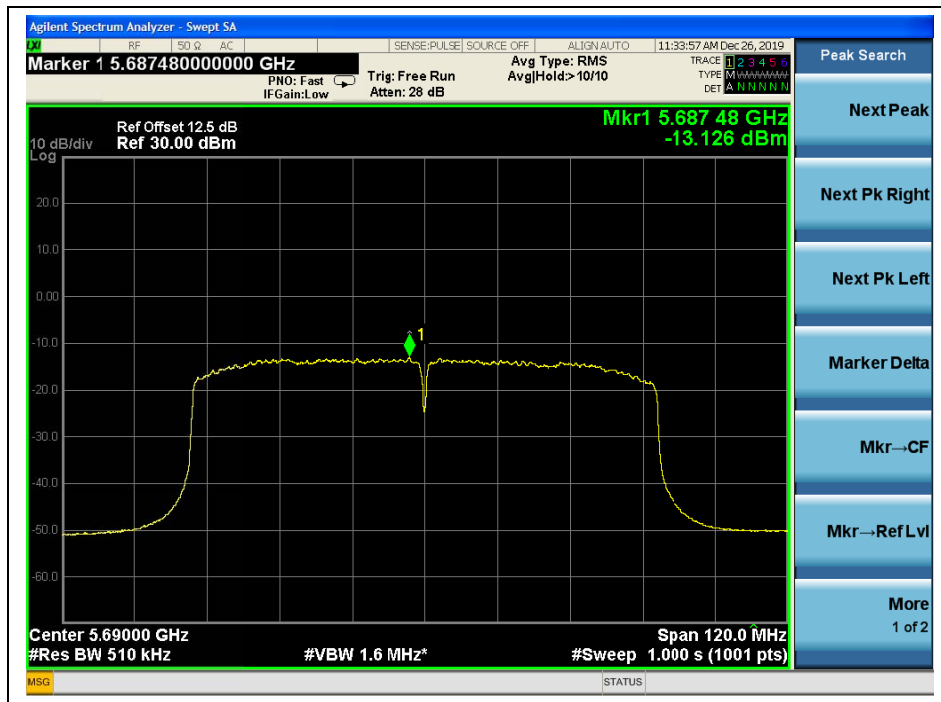
(Channel 106, 5530MHz, 802.11 ac (VHT80))



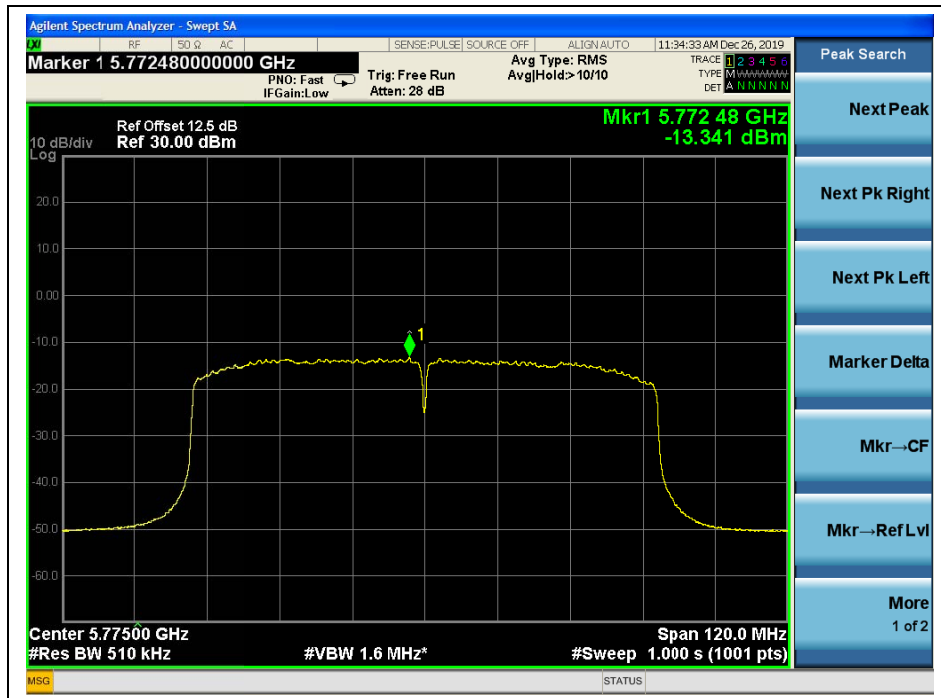
(Channel 122, 5610 MHz, 802.11 ac (VHT80))



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



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



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



2.6. Frequency Stability

2.6.1. Requirement

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user’s manual.

2.6.2. Test Procedure

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between 5°C to 40°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel’s center frequency was recorded. Data for the worst case channel is shown below.

2.6.3. Test Result

U-NII-1 (Ch. 36) 5180MHz				
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	Freq Dev. (Hz)	Deviation (ppm)
100%	3.80	+20(Ref)	22	0.004
100%		-30	51	0.010
100%		-20	47	0.009
100%		-10	35	0.007
100%		0	32	0.006
100%		+10	25	0.005
100%		+20	27	0.005
100%		+30	34	0.007
100%		+40	42	0.008
100%		+50	49	0.009
85%		3.23	+20	52
115%	4.37	+20	41	0.008



U-NII-2A (Ch. 52)				
5260MHz				
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	Freq Dev. (Hz)	Deviation (ppm)
100%	3.80	+20(Ref)	32	0.006
100%		-30	51	0.010
100%		-20	46	0.009
100%		-10	39	0.007
100%		0	33	0.006
100%		+10	34	0.006
100%		+20	37	0.007
100%		+30	44	0.008
100%		+40	46	0.009
100%		+50	57	0.011
85%	3.23	+20	30	0.006
115%	4.37	+20	32	0.006

U-NII-2C (Ch. 100)				
5500MHz				
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	Freq Dev. (Hz)	Deviation (ppm)
100%	3.80	+20(Ref)	20	0.004
100%		-30	48	0.009
100%		-20	39	0.007
100%		-10	27	0.005
100%		0	21	0.004
100%		+10	18	0.003
100%		+20	23	0.004
100%		+30	28	0.005
100%		+40	35	0.006
100%		+50	47	0.009
85%	3.23	+20	28	0.005
115%	4.37	+20	32	0.006



U-NII-3 (Ch. 149)				
5745MHz				
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	Freq Dev. (Hz)	Deviation (ppm)
100%	3.80	+20(Ref)	25	0.004
100%		-30	50	0.009
100%		-20	45	0.008
100%		-10	38	0.007
100%		0	35	0.006
100%		+10	24	0.004
100%		+20	30	0.005
100%		+30	25	0.004
100%		+40	31	0.005
100%		+50	41	0.007
85%		3.23	+20	49
115%	4.37	+20	36	0.006

2.7. Conducted Emission

2.7.1. Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

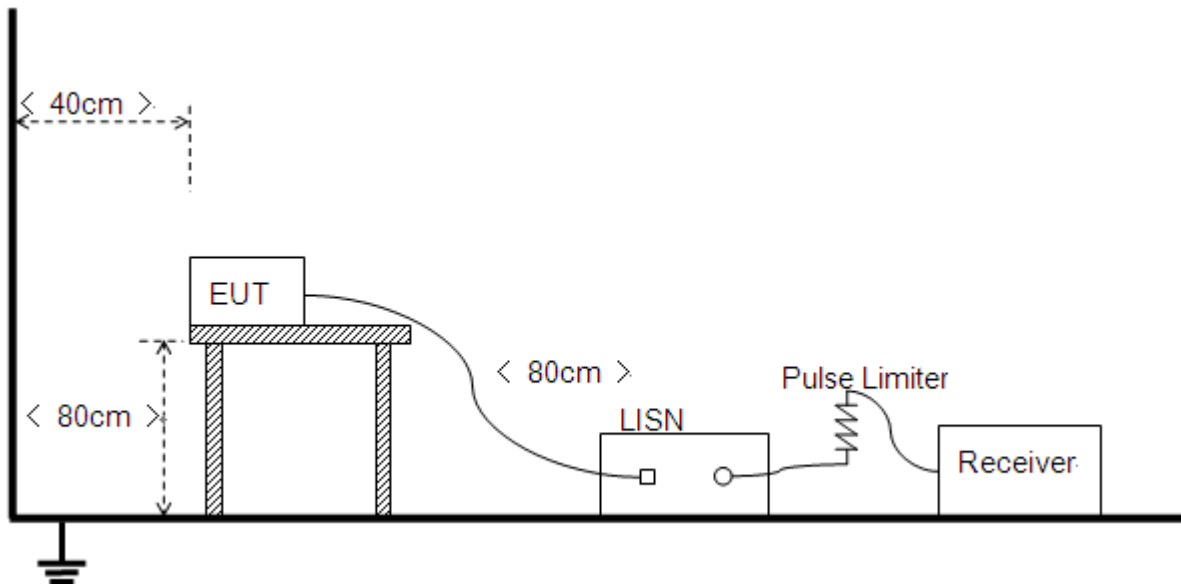
Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- (a) The lower limit shall apply at the band edges.
- (b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

2.7.2. Test Description

Test Setup:



The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2013.



2.7.3. Test Result

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Note: Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

A. Test setup:

Test Mode: EUT +ADAPTER +EARPHONE + wifi TX

Test Voltage: AC 120V/60Hz

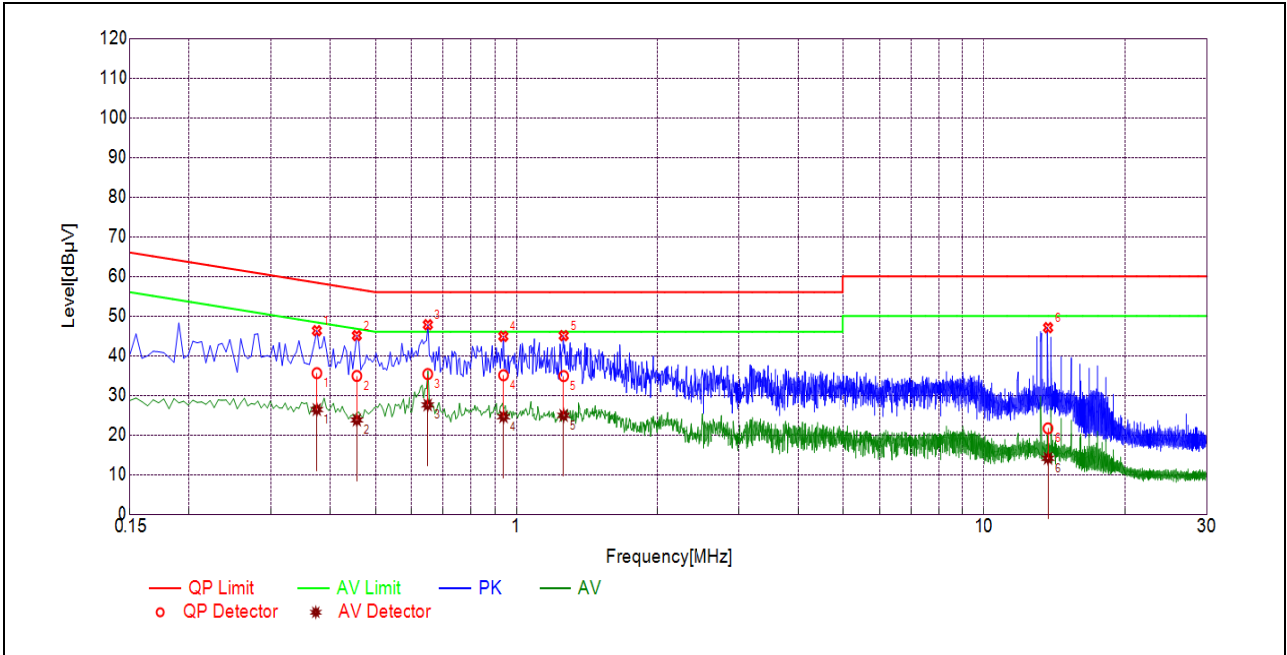
The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V]} = U_R + L_{\text{Cable loss}} \text{ [dB]} + A_{\text{Factor}}$$

U_R : Receiver Reading

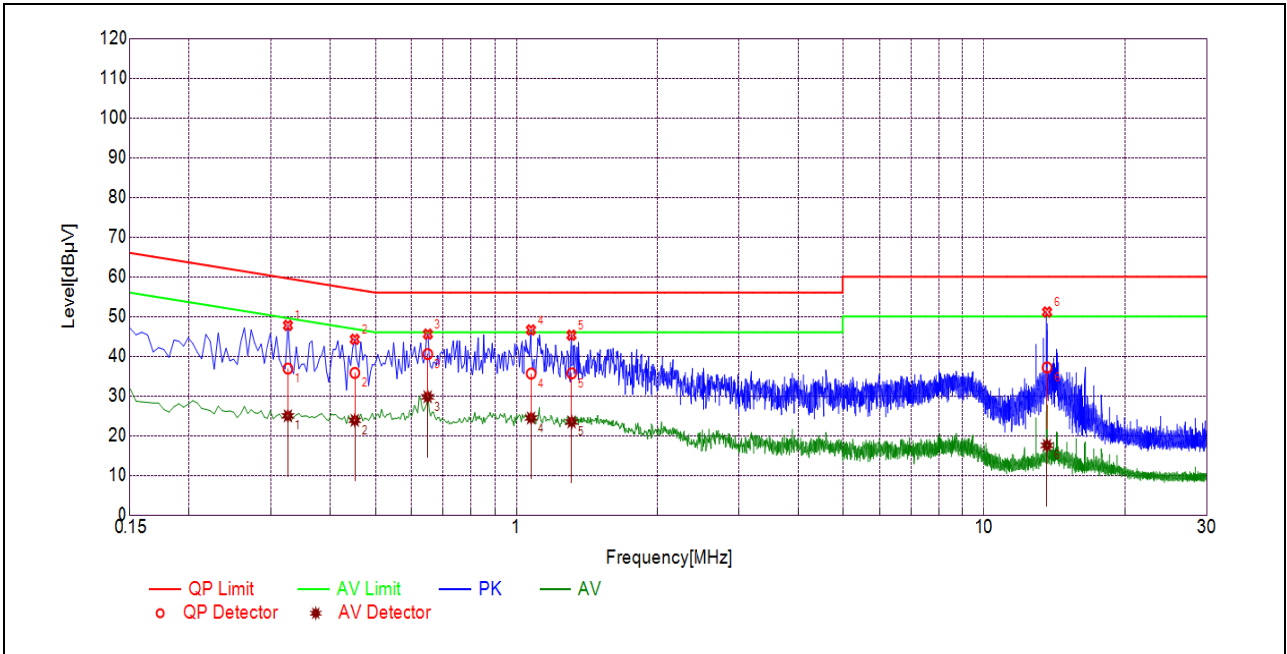
A_{Factor} : Voltage division factor of LISN

B. Test Plots:



(L Phase)

NO.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.3749	35.59	26.41	58.39	48.39	Line	PASS
2	0.4560	34.89	23.78	56.76	46.76		PASS
3	0.6489	35.37	27.57	56.00	46.00		PASS
4	0.9384	35.07	24.61	56.00	46.00		PASS
5	1.2655	34.85	24.93	56.00	46.00		PASS
6	13.7185	21.67	14.12	60.00	50.00		PASS



(N Phase)

NO.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.3254	36.87	24.98	59.57	49.57	Neutral	PASS
2	0.4515	35.79	23.85	56.85	46.85		PASS
3	0.6489	40.54	29.78	56.00	46.00		PASS
4	1.0733	35.62	24.45	56.00	46.00		PASS
5	1.3162	35.68	23.44	56.00	46.00		PASS
6	13.6560	37.15	17.55	60.00	50.00		PASS

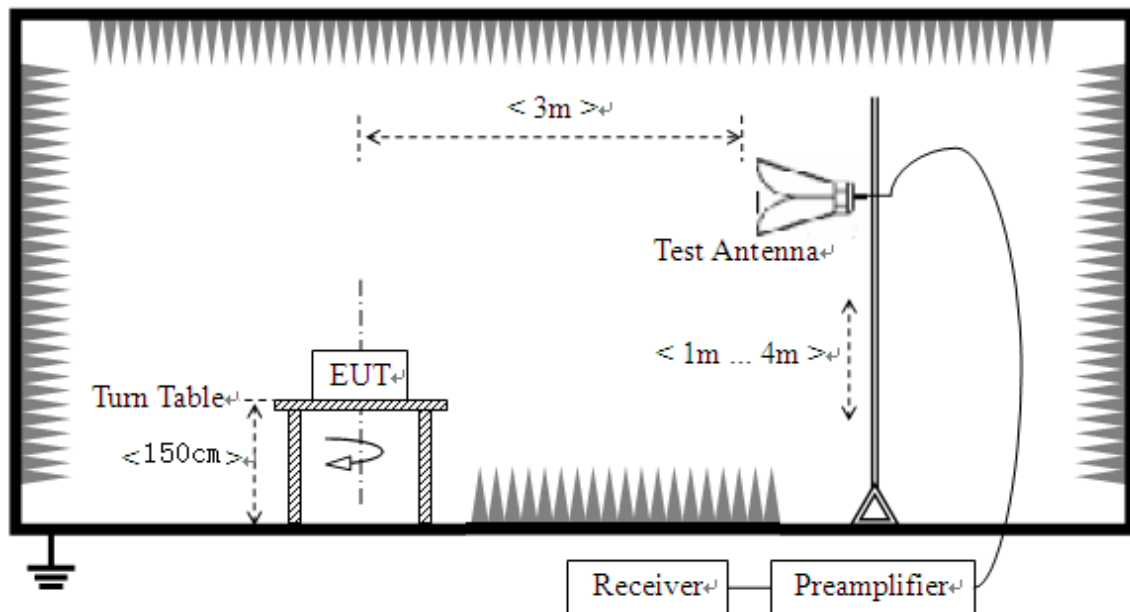
2.8. Restricted Frequency Bands

2.8.1. Requirement

According to FCC section 15.407(b)(7), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

2.8.2. Test Description

Test Setup



The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

KDB 789033 Section H) 3)5)6(d)) was used in order to prove compliance

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.



2.8.3. Test Result

The lowest and highest channels are tested to verify Restricted Frequency Bands.

The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V/m]} = U_R + A_T + A_{\text{Factor}} \text{ [dB]}; A_T = L_{\text{Cable loss}} \text{ [dB]} - G_{\text{preamp}} \text{ [dB]}$$

A_T : Total correction Factor except Antenna; U_R : Receiver Reading

G_{preamp} : Preamplifier Gain; A_{Factor} : Antenna Factor at 3m

Note: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (vertical) was recorded in this test report.

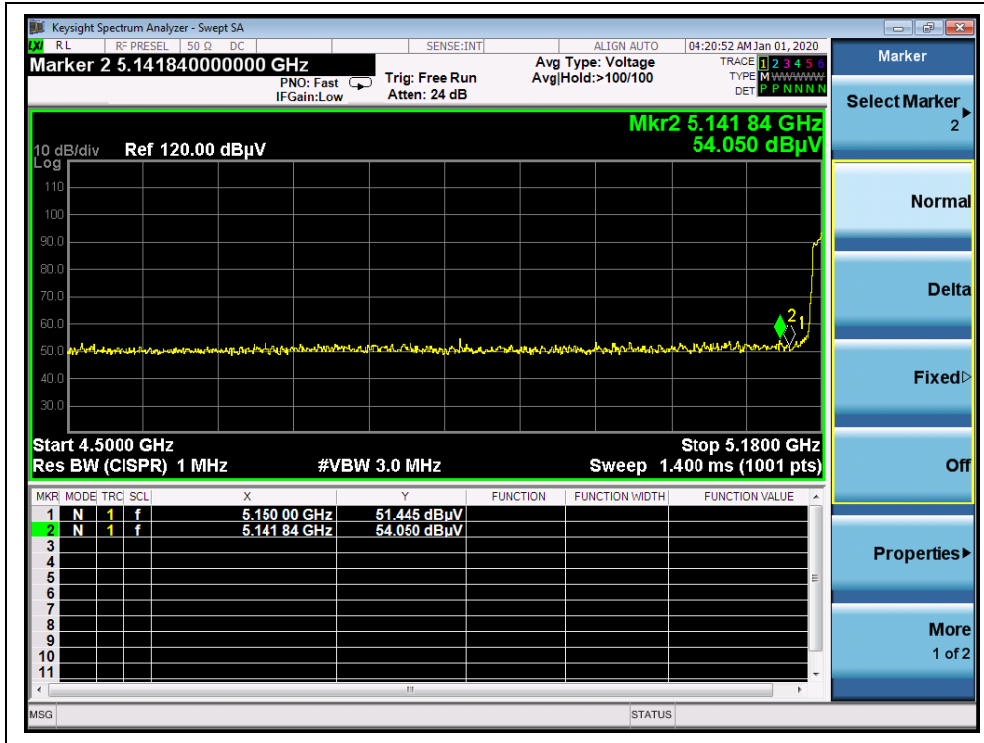
802.11a Test mode

A. Test Verdict:

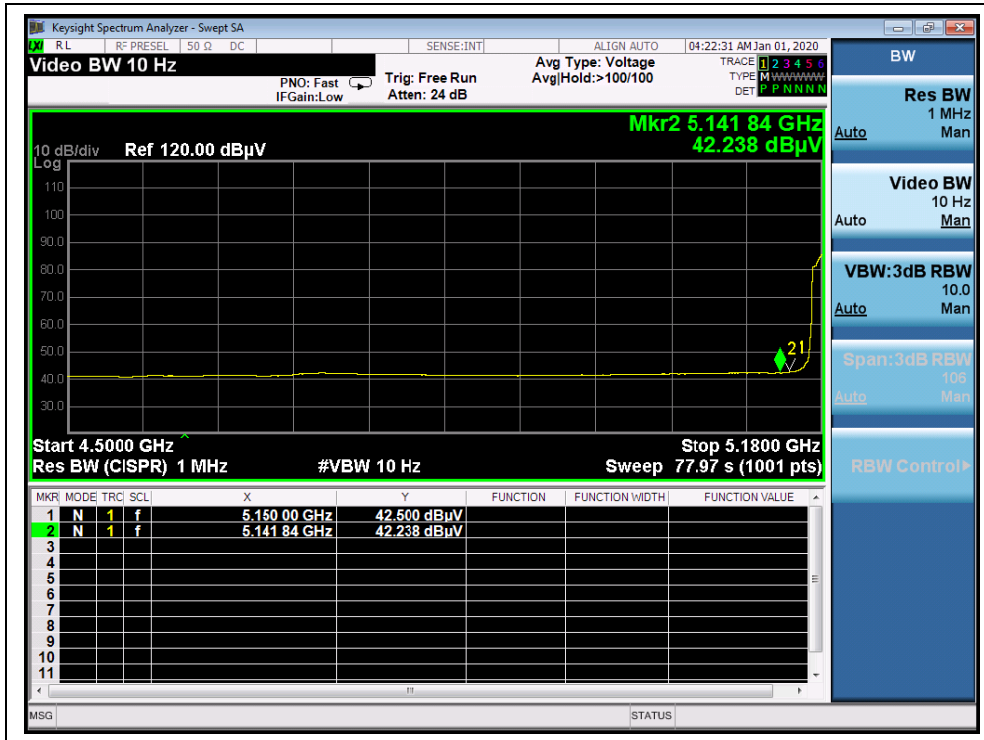
Channel	Frequency (MHz)	Detector	Receiver Reading	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV	U_R (dB μ V)					
36	5141.84	PK	54.05	-26.92	32.20	59.33	74	PASS
36	5150.00	AV	42.50	-26.92	32.20	47.78	54	PASS
64	5351.26	PK	50.92	-26.80	32.20	56.32	74	PASS
64	5350.00	AV	40.27	-26.80	32.20	45.67	54	PASS
100	5445.80	PK	51.98	-26.64	32.20	57.54	74	PASS
100	5470.00	AV	40.92	-26.64	32.20	46.48	54	PASS
144	5755.90	PK	52.44	-26.64	32.20	58.00	68.23	PASS
144	5726.80	AV	41.53	-26.64	32.20	47.09	54	PASS
149	5723.63	PK	56.13	-26.23	32.20	62.10	119.11	PASS
149	5725.00	AV	42.58	-26.23	32.20	48.55	54	PASS
165	5851.75	PK	51.63	-26.23	32.20	57.60	118.24	PASS
165	5850.00	AV	41.78	-26.23	32.20	47.75	54	PASS



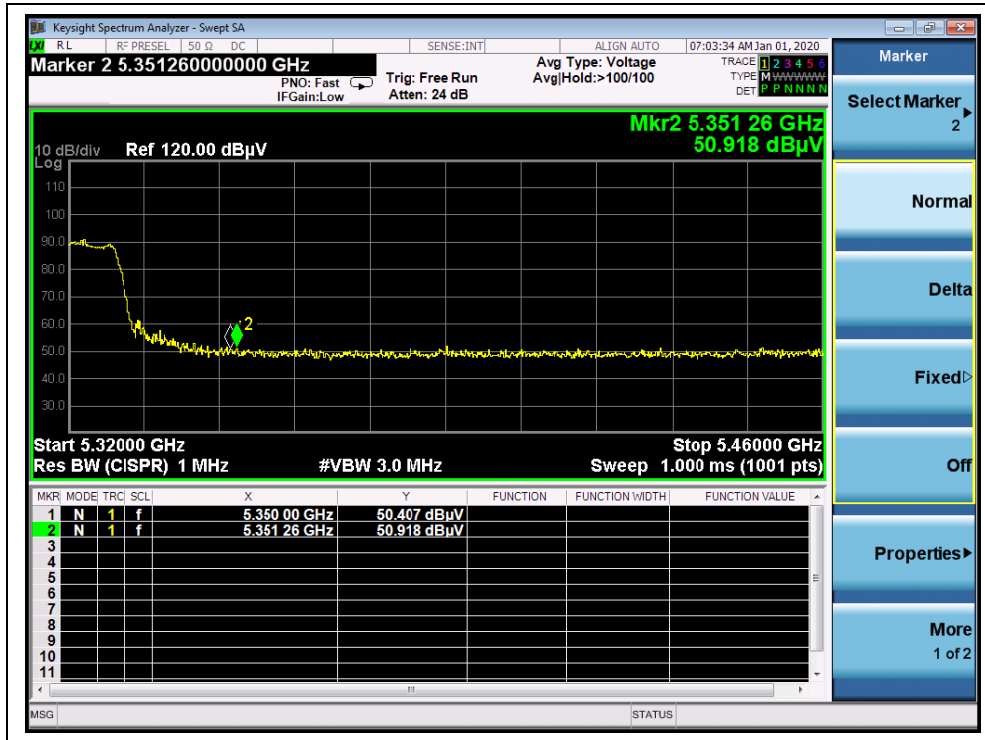
B. Test Plots:



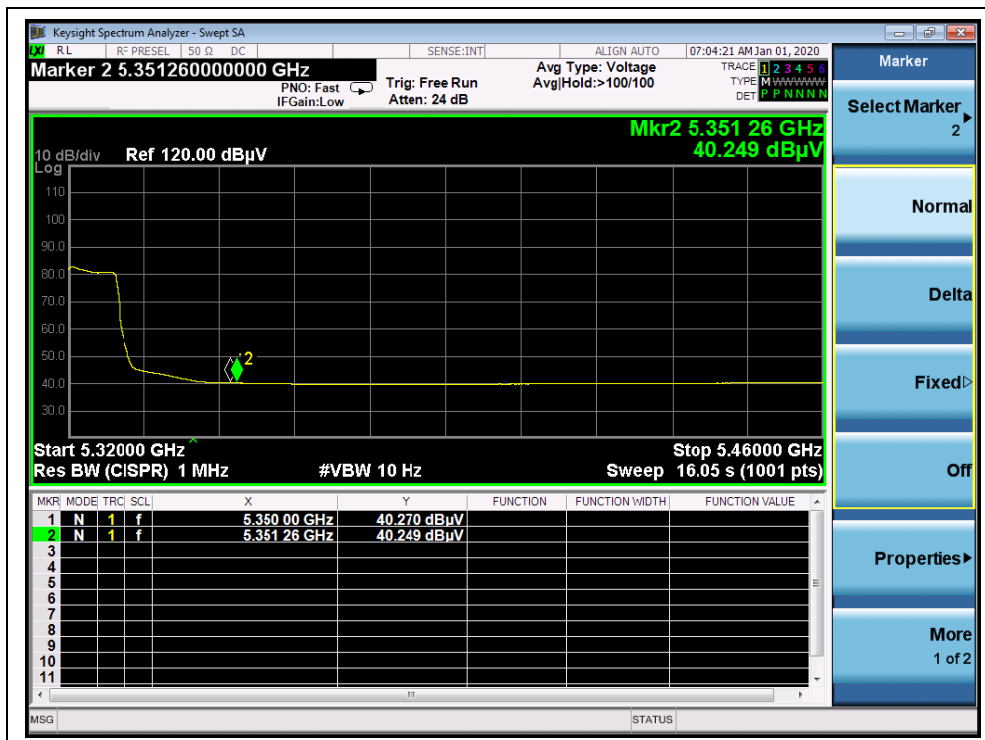
(Channel 36, PEAK, 802.11a)



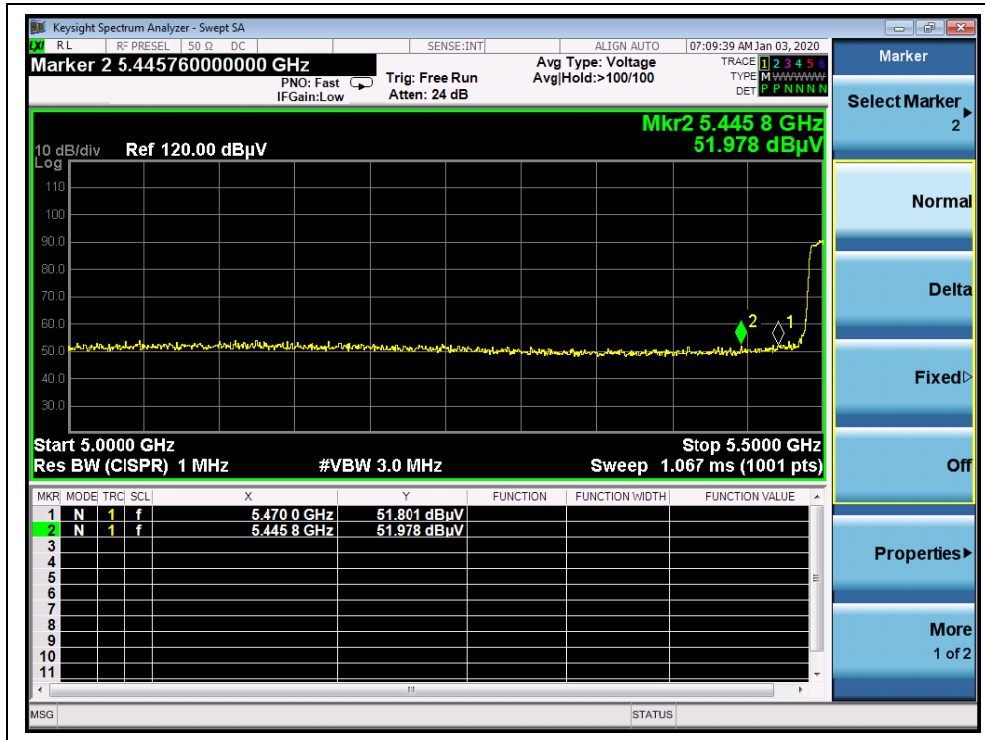
(Channel 36, AVG, 802.11a)



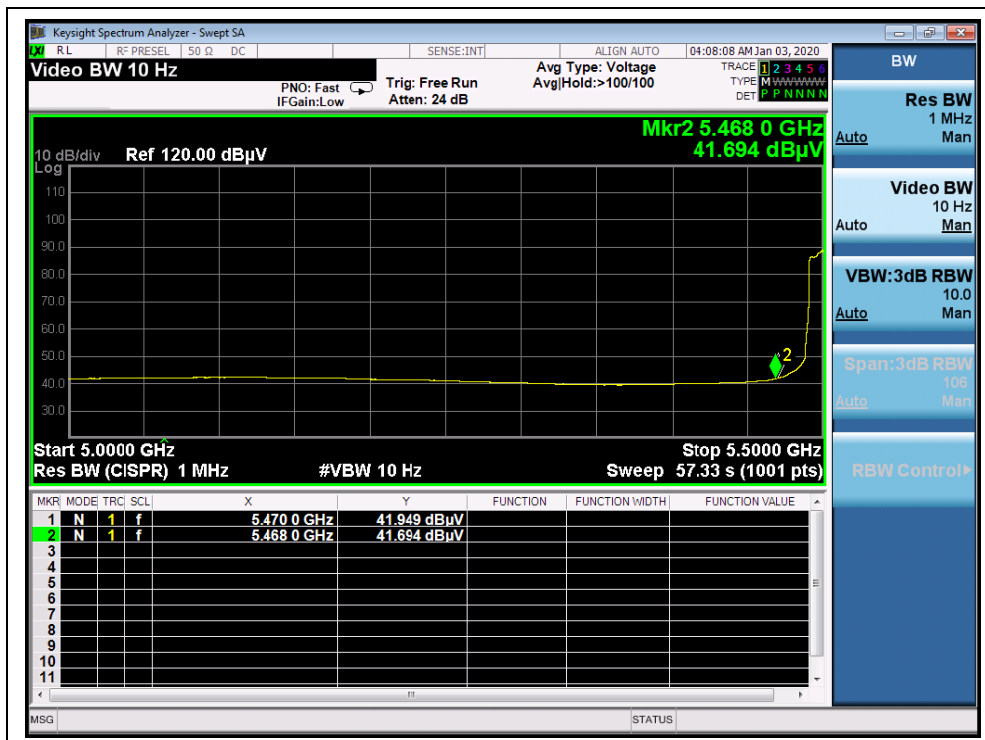
(Channel 64, PEAK, 802.11a)



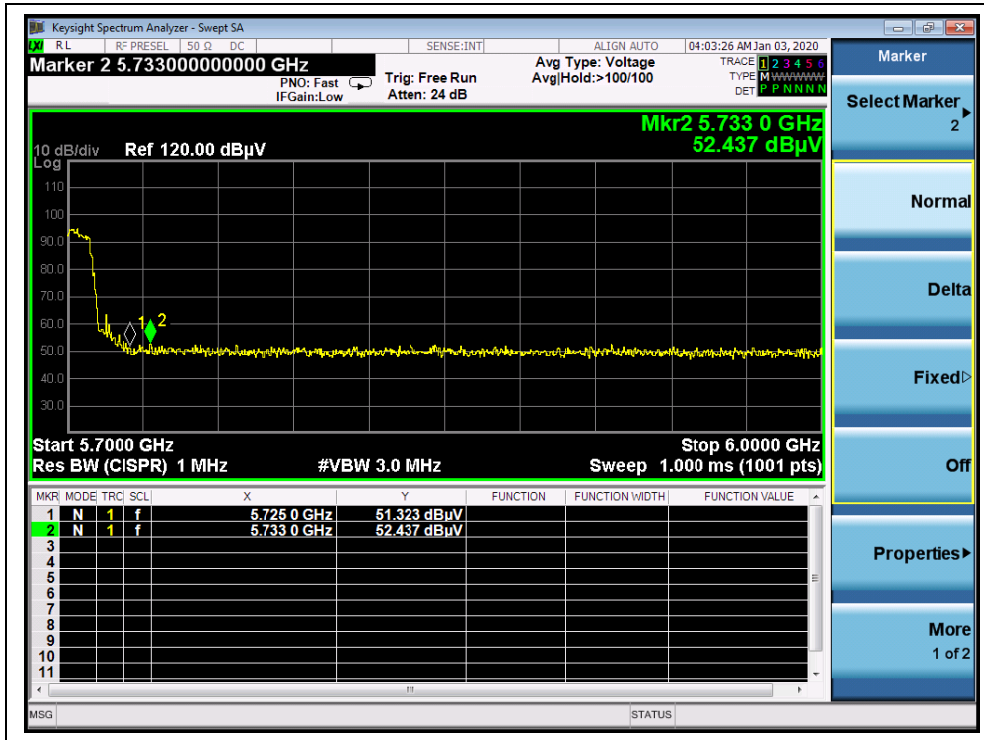
(Channel 64, AVG, 802.11a)



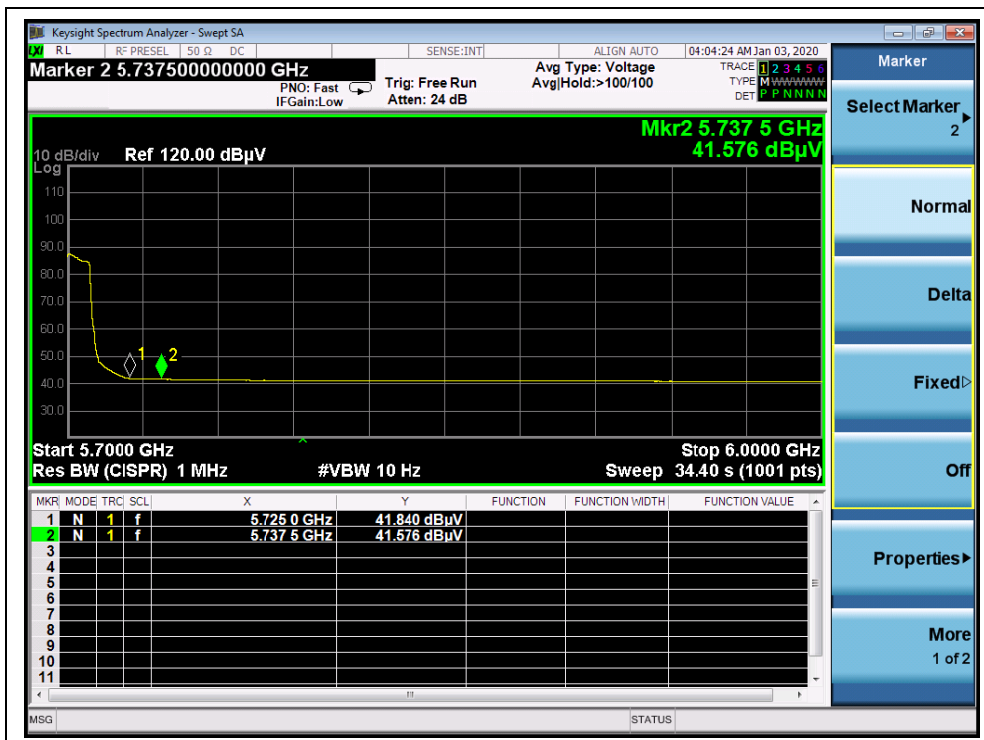
(Channel 100, PEAK, 802.11a)



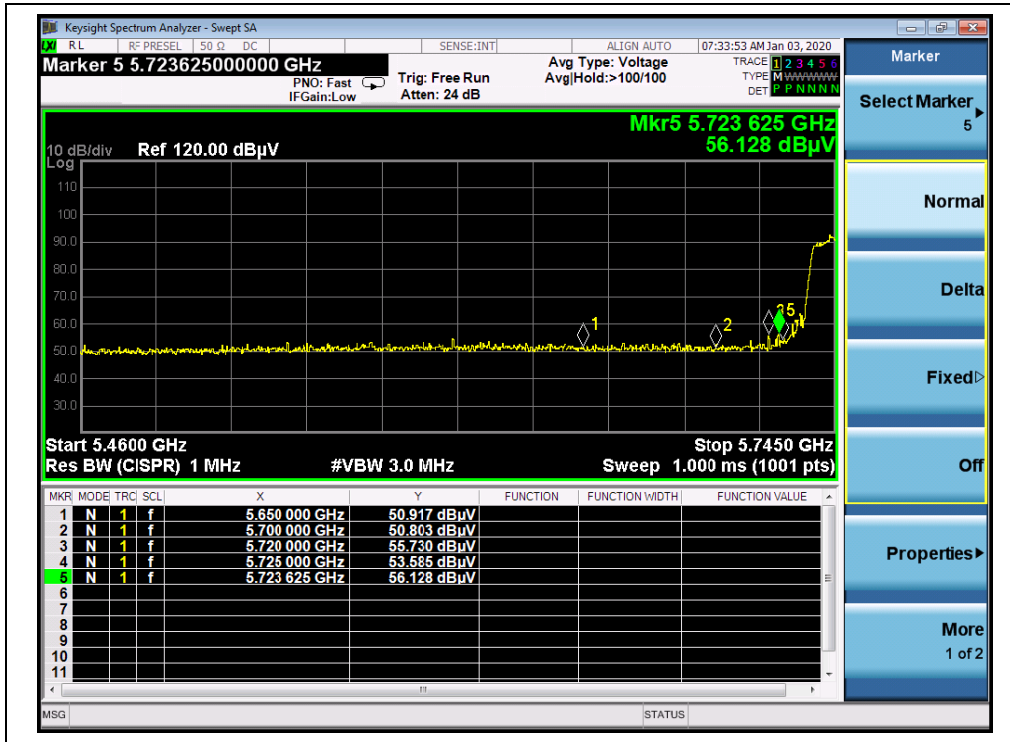
(Channel 100, AVG, 802.11a)



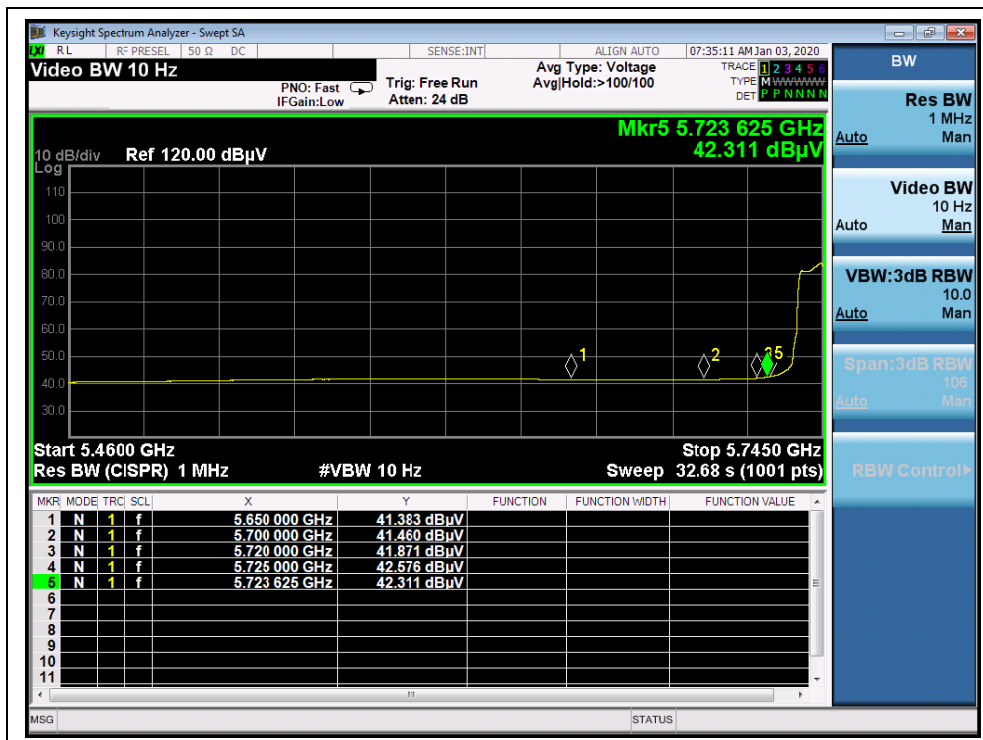
(Channel 144, PEAK, 802.11a)



(Channel 144, AVG, 802.11a)



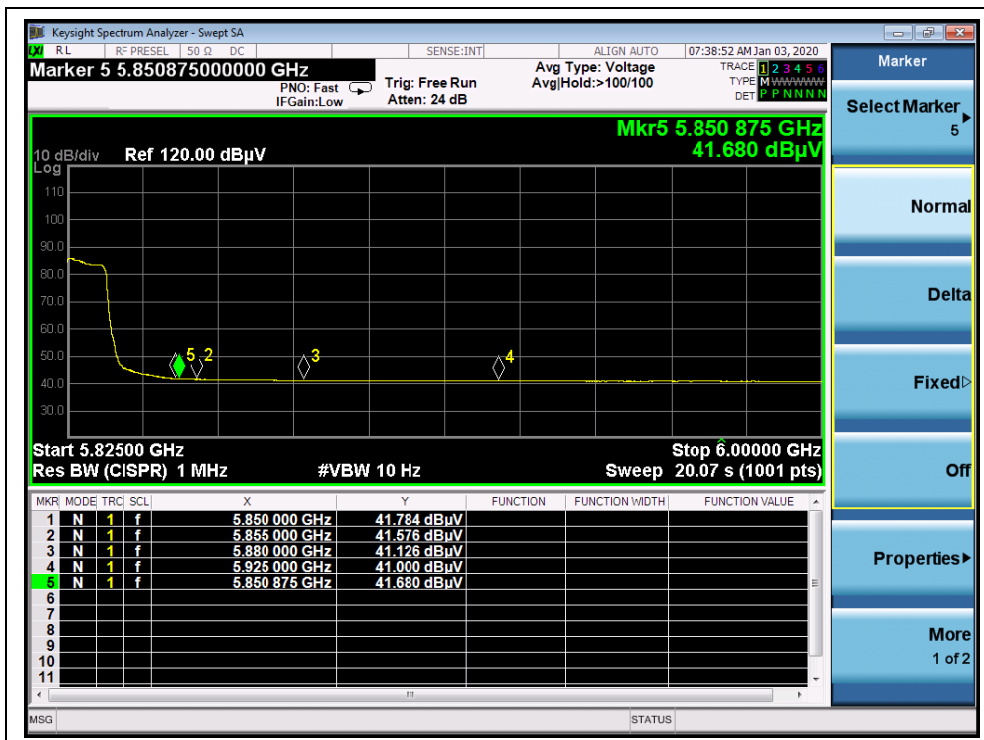
(Channel 149, PEAK, 802.11a)



(Channel 149, AVG, 802.11a)



(Channel 165, PEAK, 802.11a)



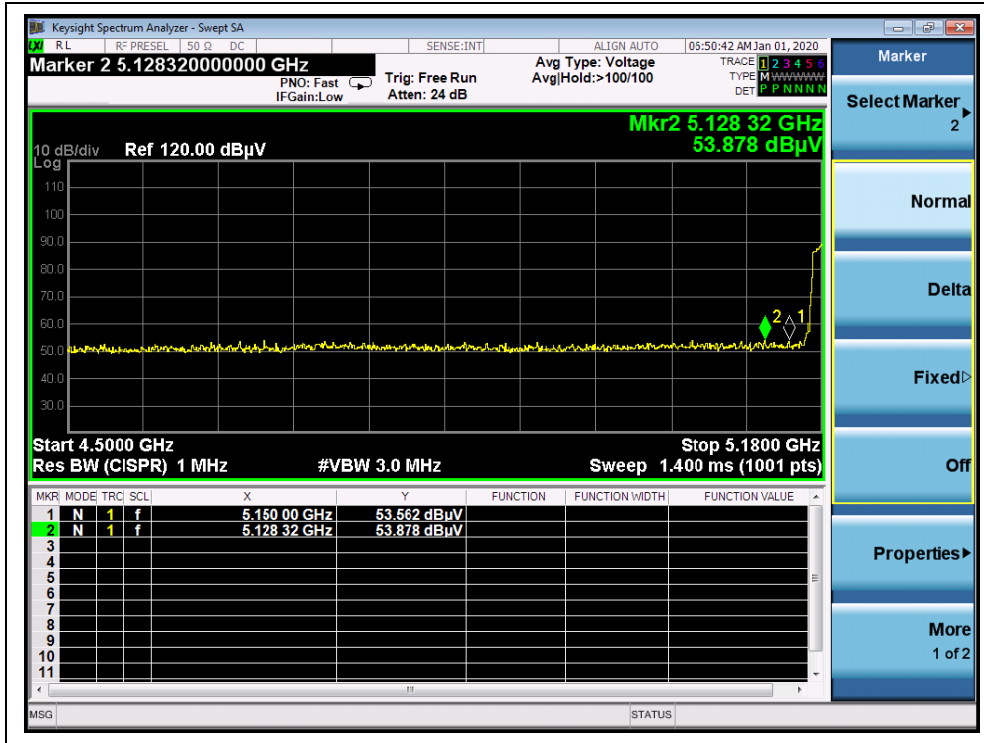
(Channel 165, AVG, 802.11a)

**802.11n (HT20) Test mode****A. Test Verdict:**

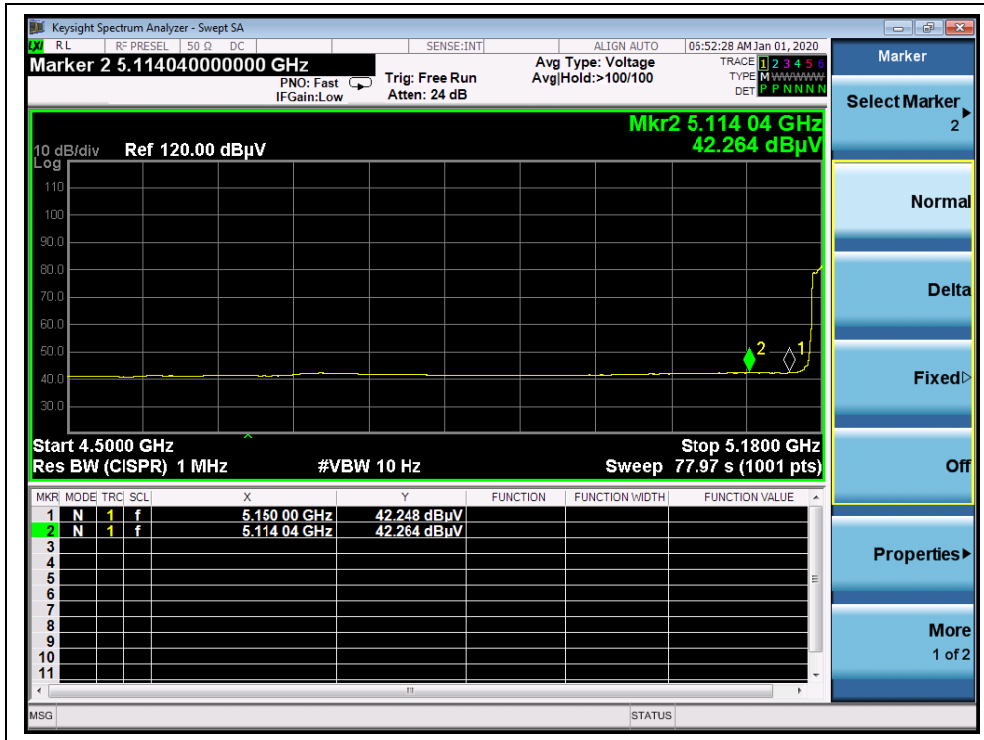
Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dBuV)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
36	5128.32	PK	53.88	-26.92	32.20	59.16	74	PASS
36	5114.04	AV	42.26	-26.92	32.20	47.54	54	PASS
64	5352.94	PK	55.55	-26.80	32.20	60.95	74	PASS
64	5350.00	AV	42.52	-26.80	32.20	47.92	54	PASS
100	5467.50	PK	56.13	-26.64	32.20	61.69	68.23	PASS
100	5470.00	AV	42.39	-26.64	32.20	47.95	54	PASS
144	5726.80	PK	55.94	-26.64	32.20	61.50	68.23	PASS
144	5725.00	AV	42.51	-26.64	32.20	48.07	54	PASS
149	5725.00	PK	60.06	-26.23	32.20	66.03	122.23	PASS
149	5725.00	AV	45.90	-26.23	32.20	51.87	54	PASS
165	5850.00	PK	57.95	-26.23	32.20	63.92	122.23	PASS
165	5850.00	AV	44.25	-26.23	32.20	50.22	54	PASS



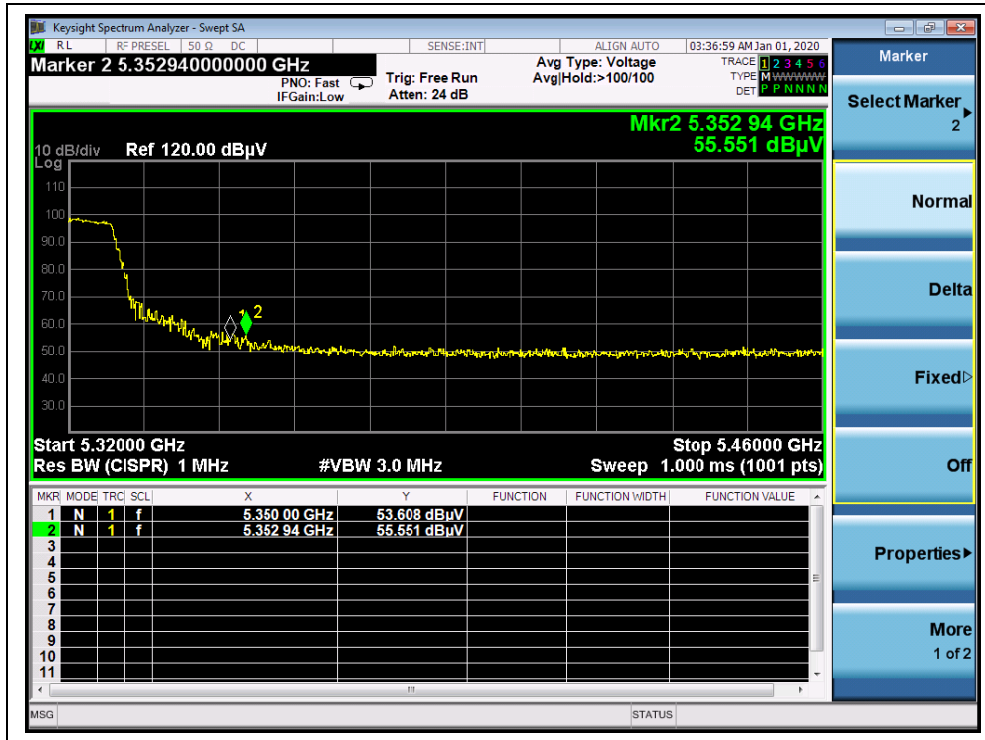
B. Test Plots:



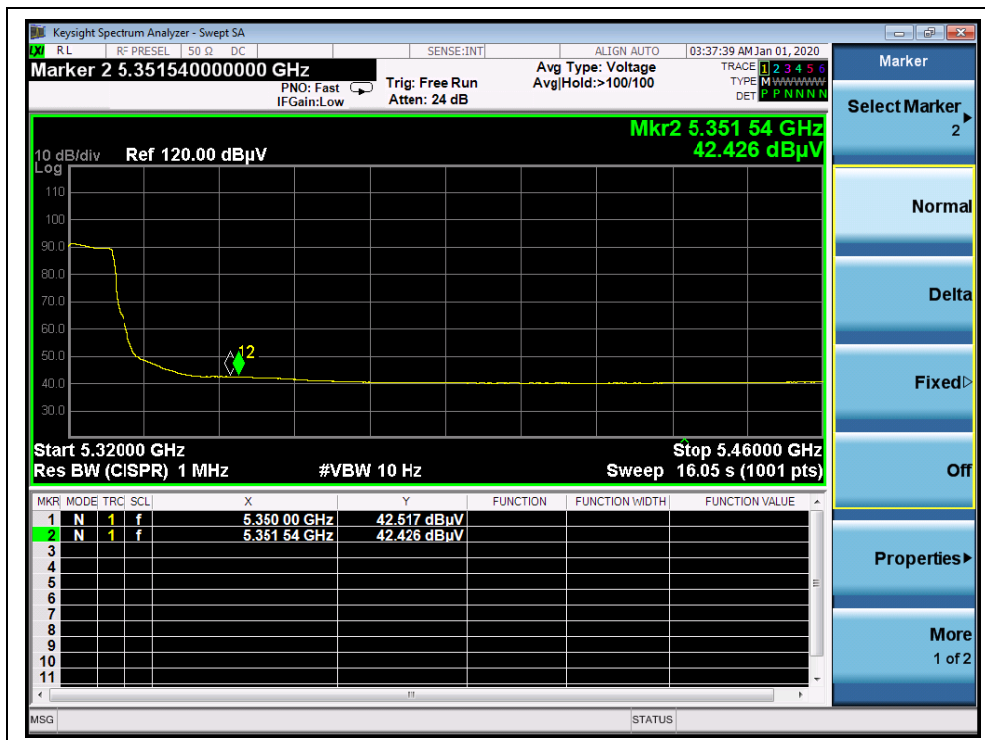
(Channel 36, PEAK, 802.11n (HT20))



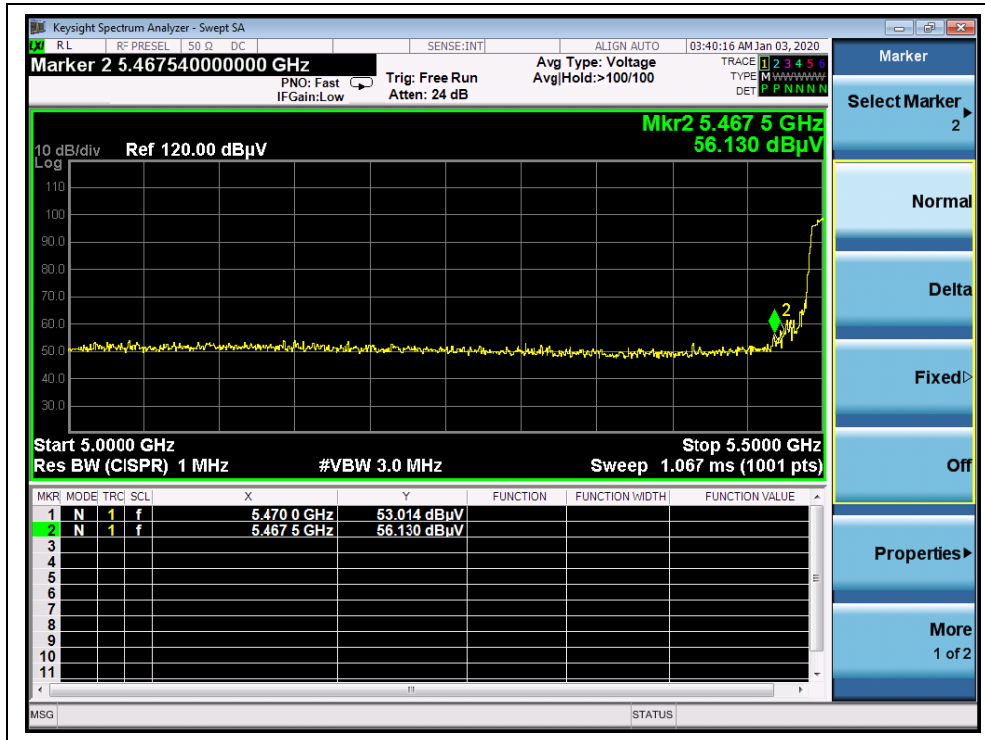
(Channel 36, AVG, 802.11 n (HT20))



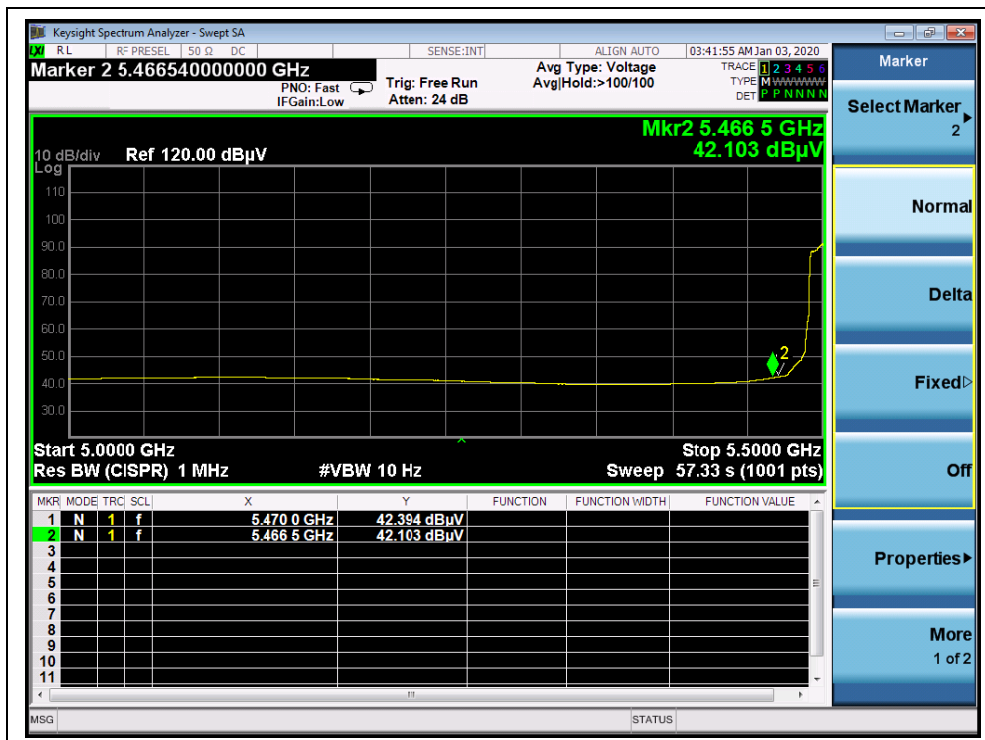
(Channel 64, PEAK, 802.11 n (HT20))



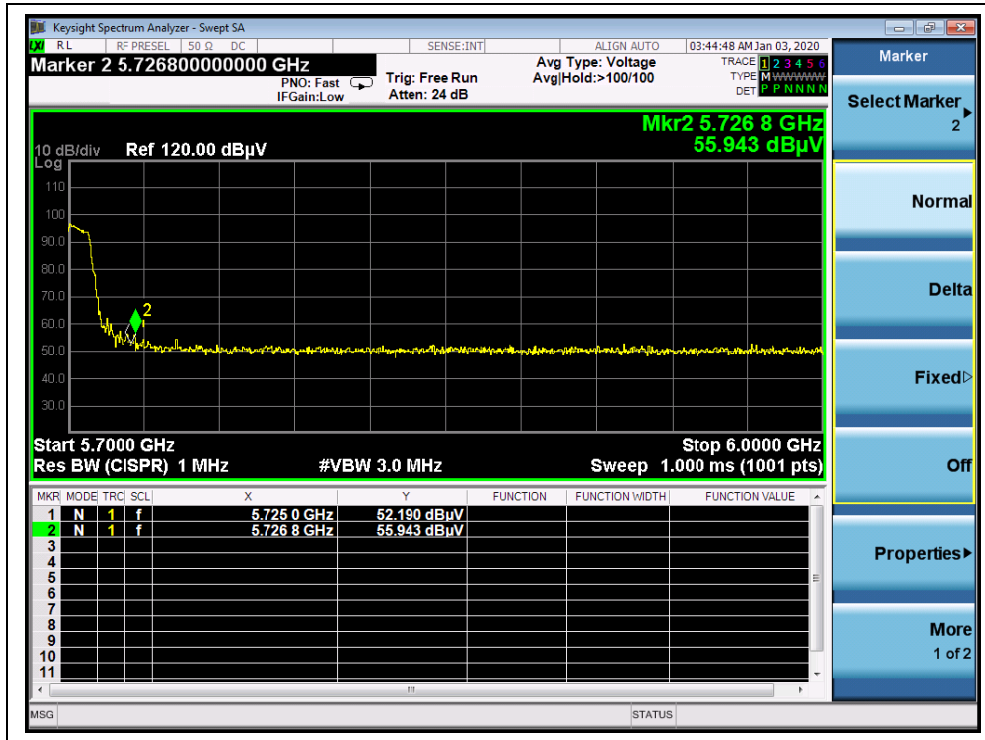
(Channel 64, AVG, 802.11n (HT20))



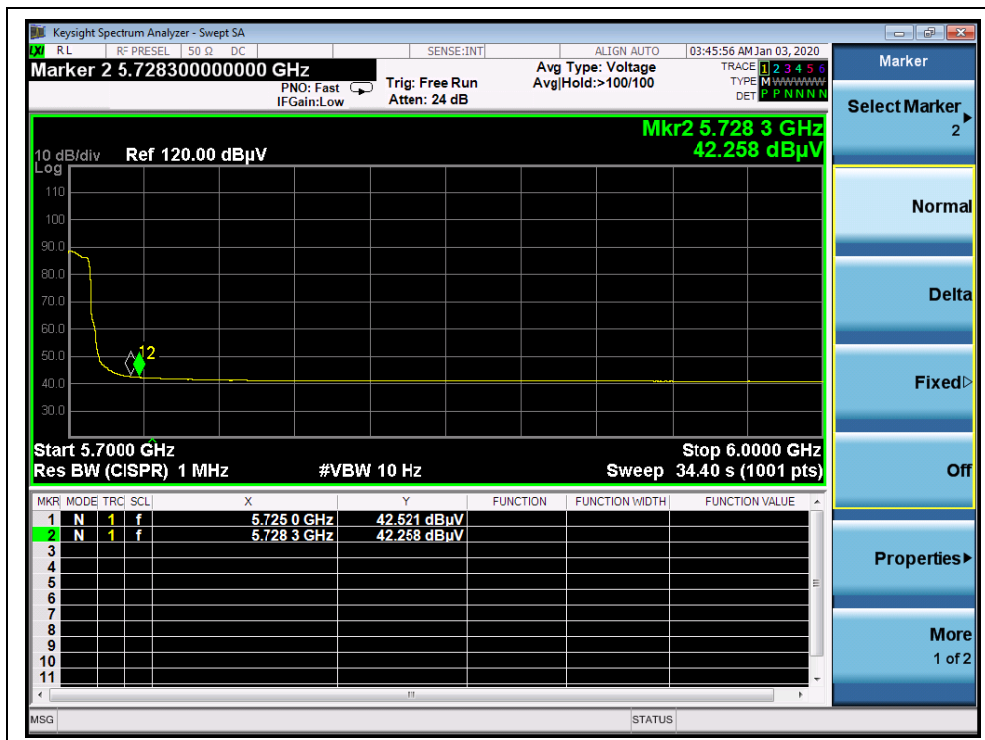
(Channel 100, PEAK, 802.11 n (HT20))



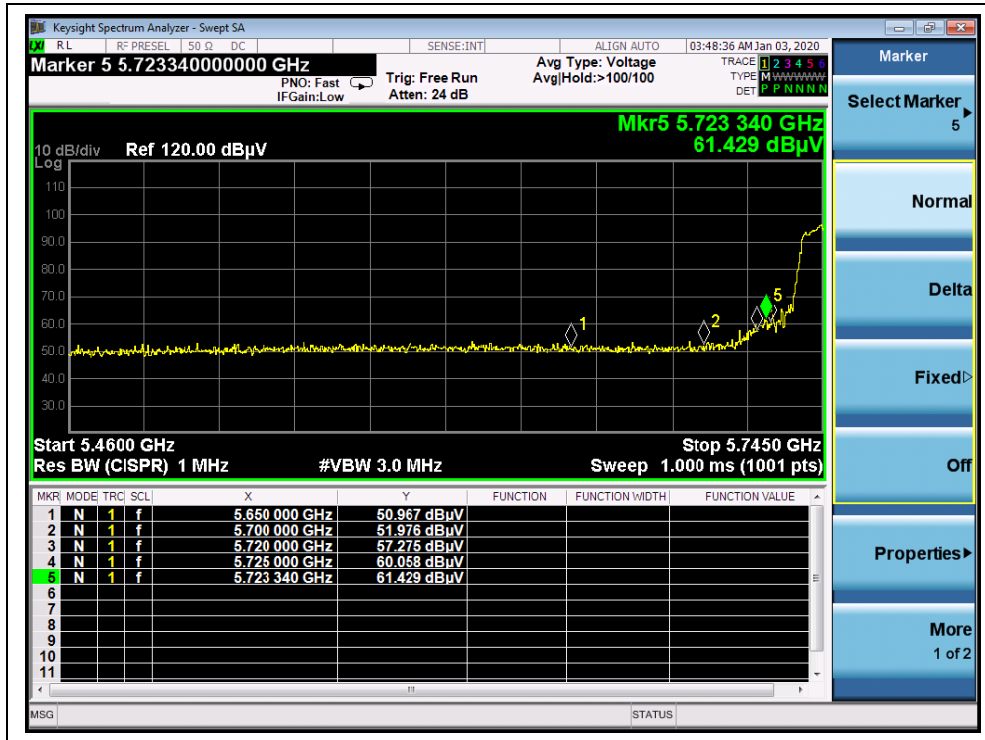
(Channel 100, AVG, 802.11n (HT20))



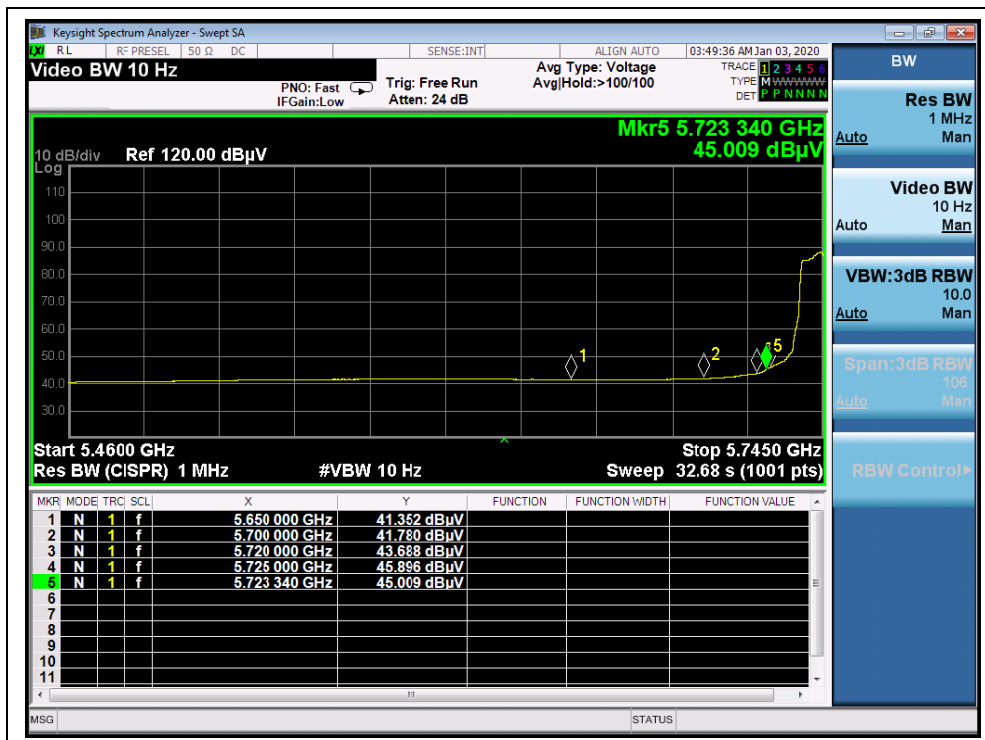
(Channel 144, PEAK, 802.11 n (HT20))



(Channel 144, AVG, 802.11n (HT20))



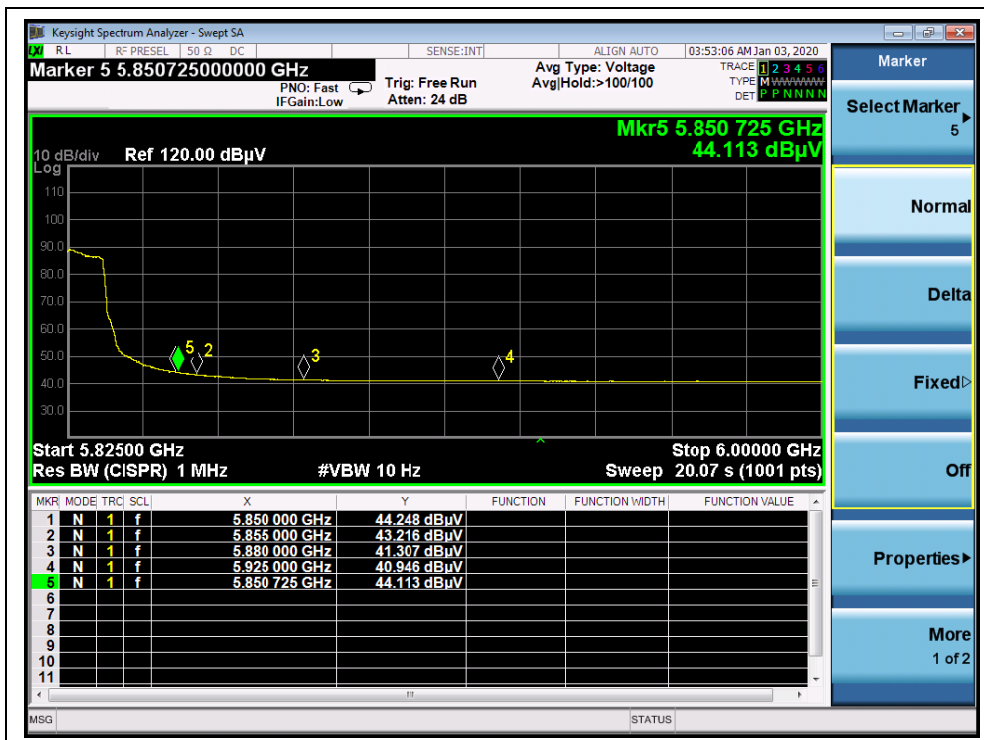
(Channel 149, PEAK, 802.11 n (HT20))



(Channel 149, AVG, 802.11n (HT20))



(Channel 165, PEAK, 802.11 n (HT20))



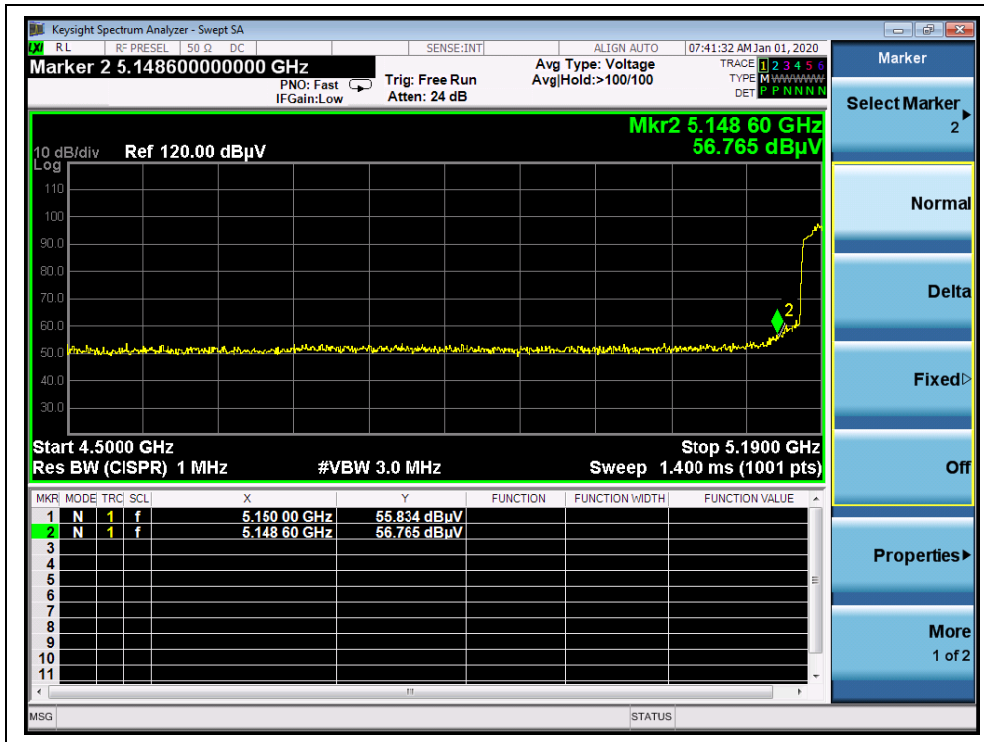
(Channel 165, AVG, 802.11n (HT20))

**802.11n (HT40) Test mode****A. Test Verdict:**

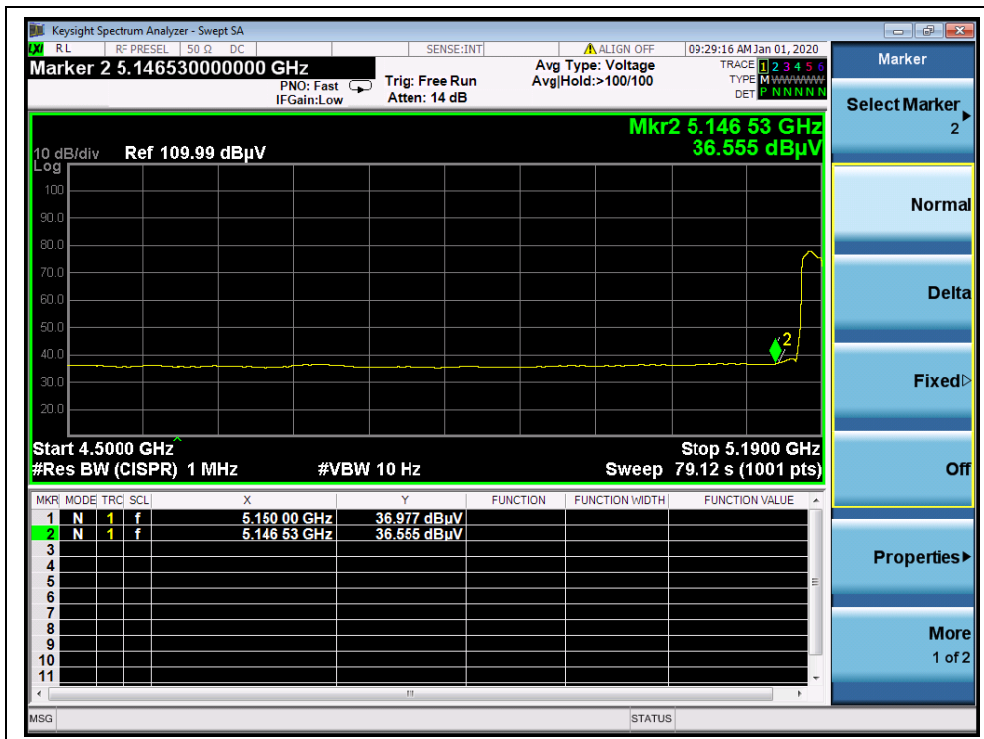
Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dBuV)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
38	5148.60	PK	56.77	-26.92	32.20	62.05	74	PASS
38	5150.00	AV	36.98	-26.92	32.20	42.26	54	PASS
62	5351.95	PK	54.43	-26.80	32.20	59.83	74	PASS
62	5350.00	AV	42.91	-26.80	32.20	48.31	54	PASS
102	5467.33	PK	54.86	-26.64	32.20	60.42	68.23	PASS
102	5470.00	AV	43.83	-26.64	32.20	49.39	54	PASS
142	5751.07	PK	53.50	-26.64	32.20	59.06	68.23	PASS
142	5726.98	AV	41.44	-26.64	32.20	47.00	54	PASS
151	5725.00	PK	56.79	-26.23	32.20	62.76	122.23	PASS
151	5725.00	AV	44.10	-26.23	32.20	50.07	54	PASS
159	5880.00	PK	52.21	-26.23	32.20	58.18	101.53	PASS
159	5851.85	AV	41.36	-26.23	32.20	47.33	54	PASS



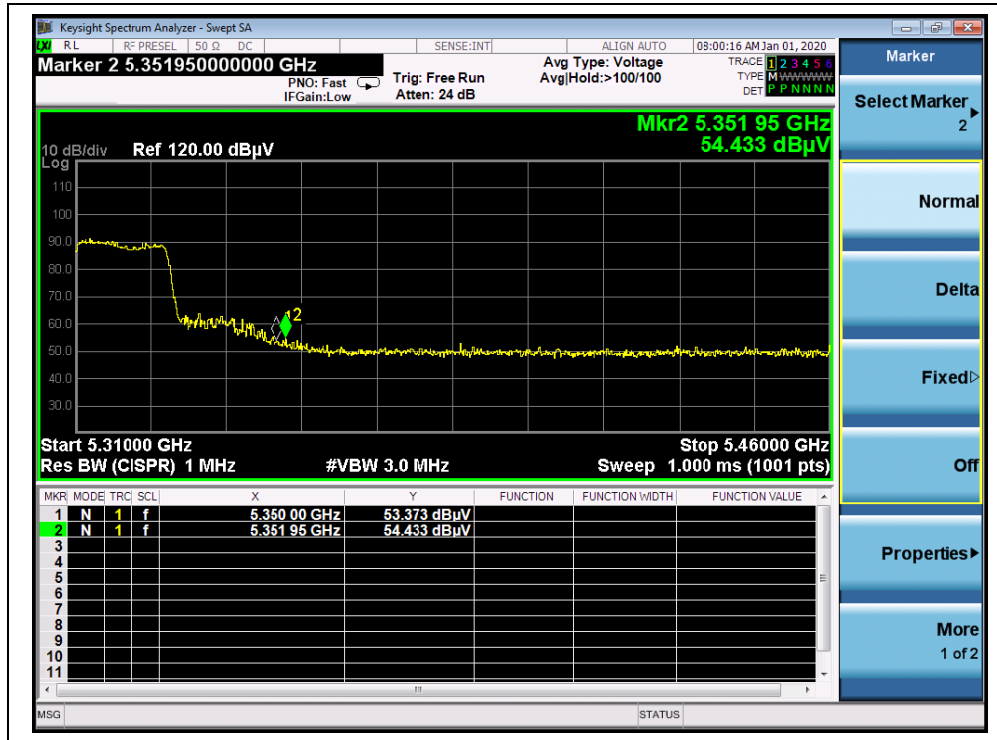
B. Test Plots:



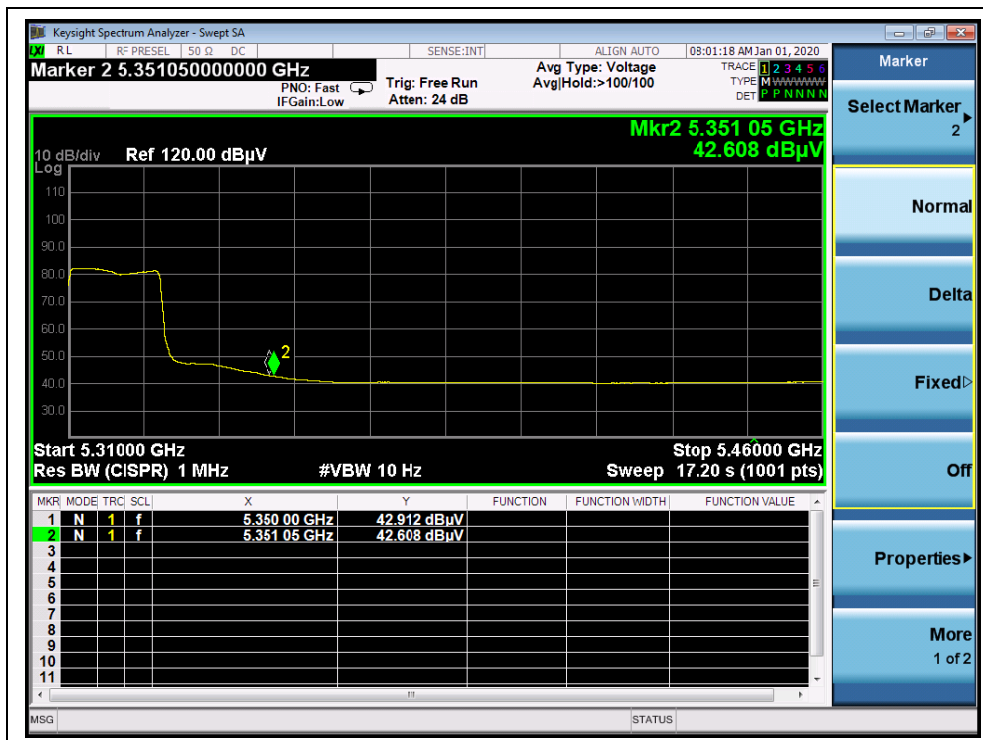
(Channel 38, PEAK, 802.11n (HT40))



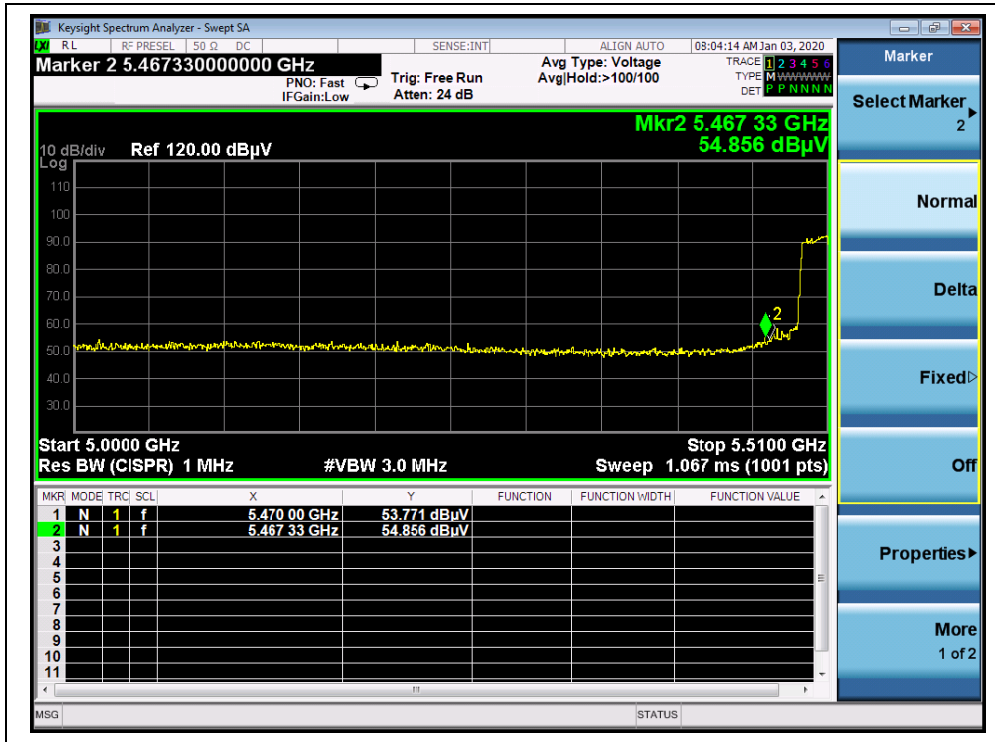
(Channel 38, AVG, 802.11n (HT40))



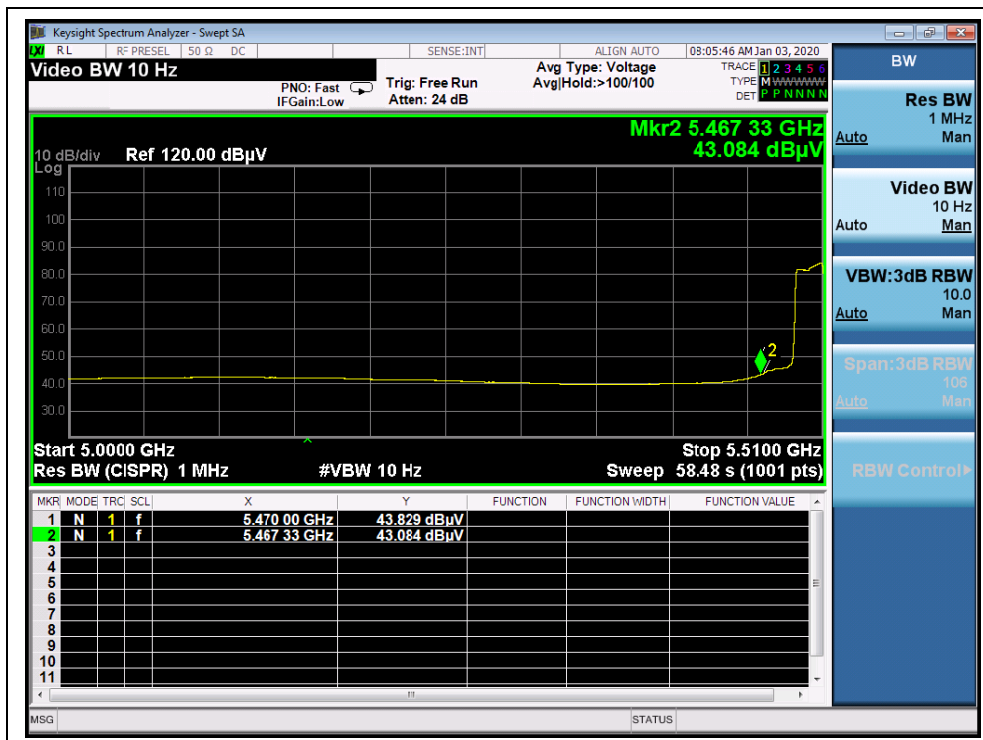
(Channel 62, PEAK, 802.11n (HT40))



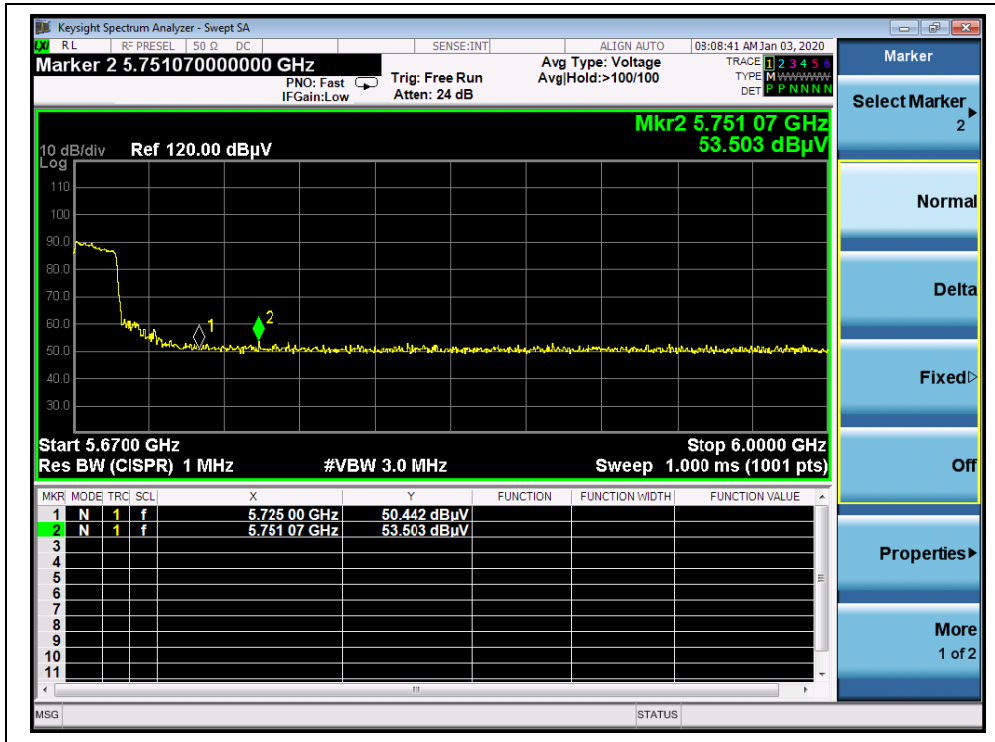
(Channel 62, AVG, 802.11n (HT40))



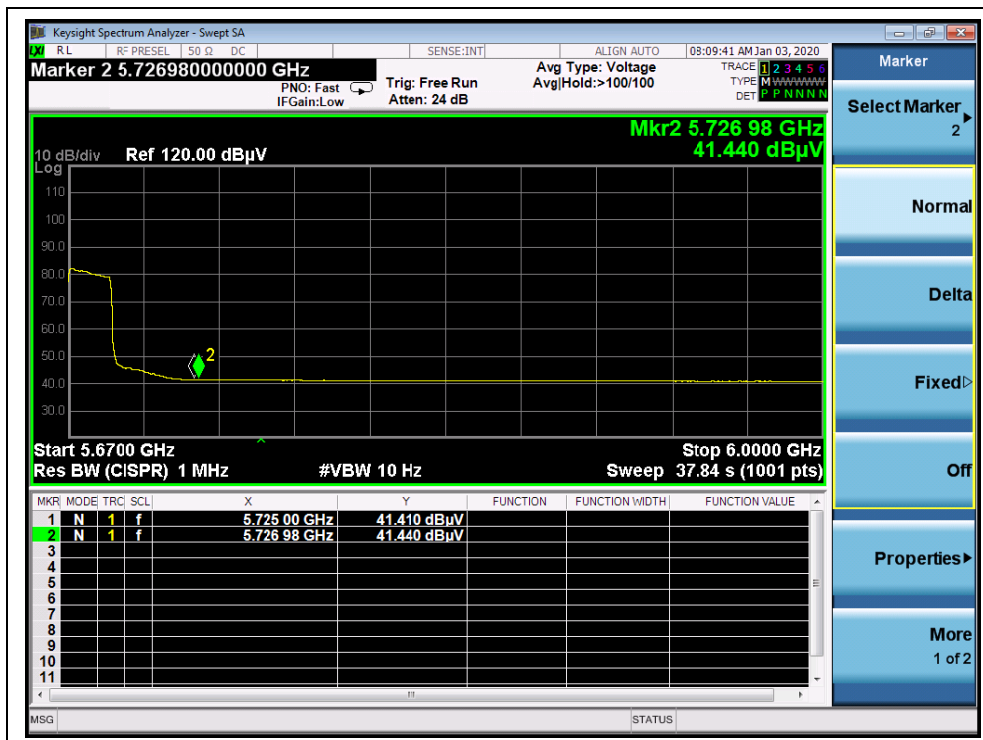
(Channel 102, PEAK, 802.11n (HT40))



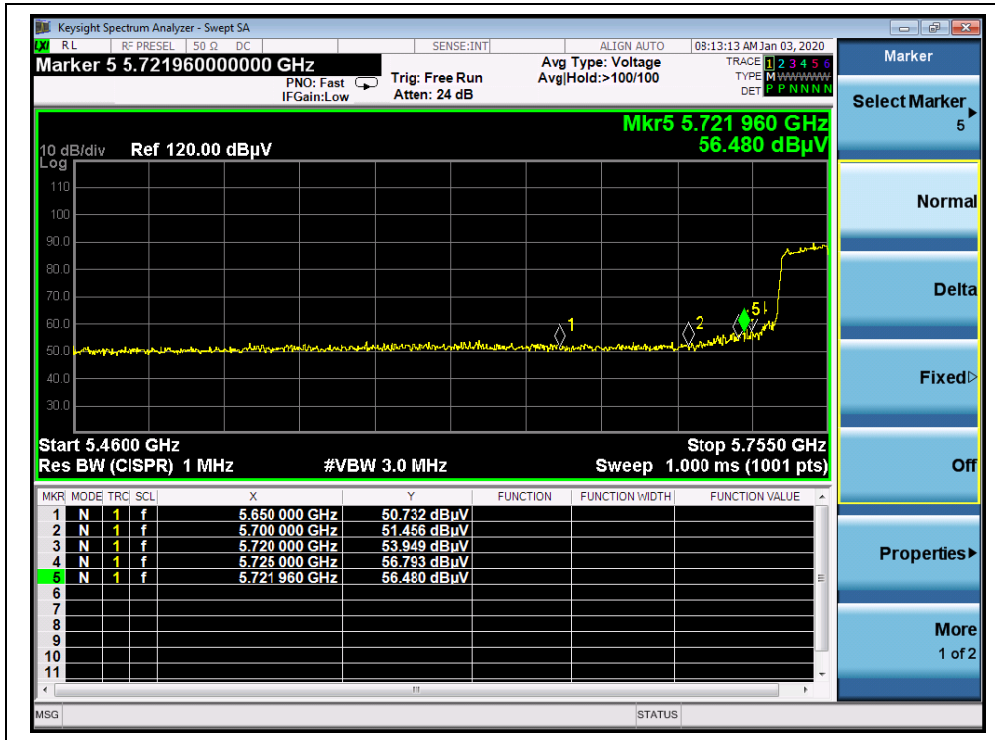
(Channel 102, AVG, 802.11n (HT40))



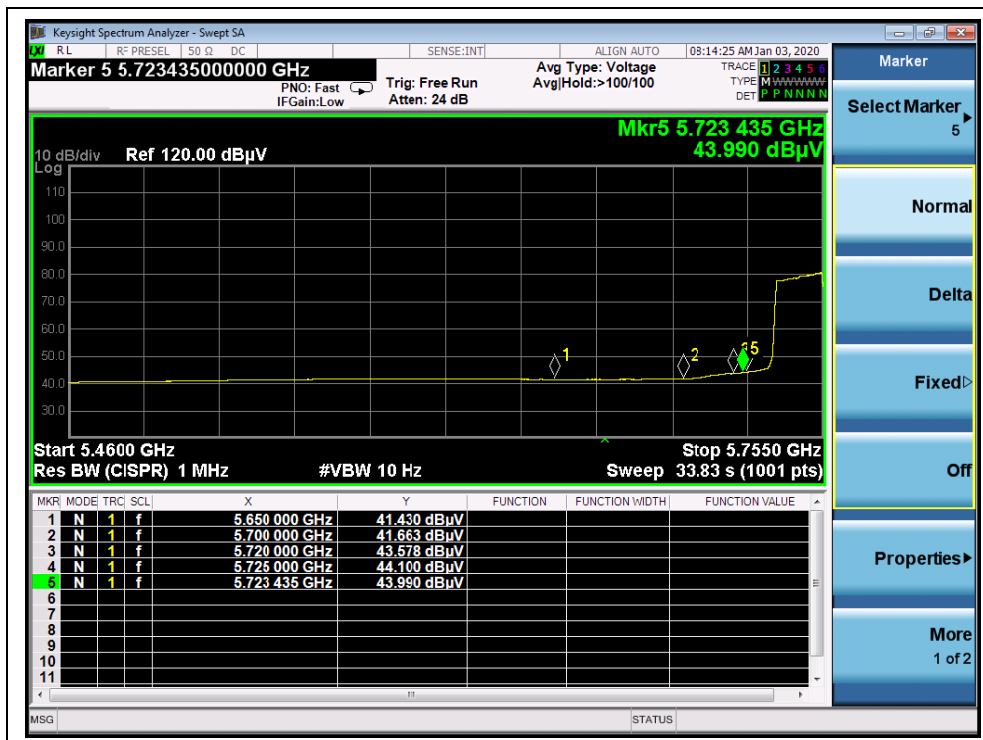
(Channel 142, PEAK, 802.11n (HT40))



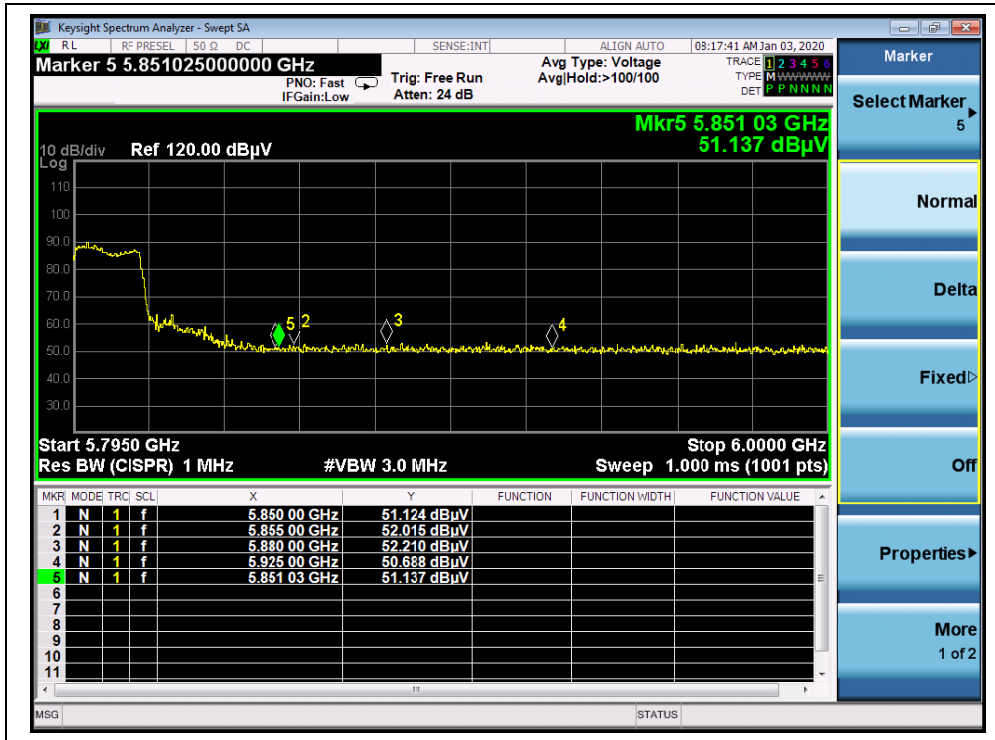
(Channel 142, AVG, 802.11n (HT40))



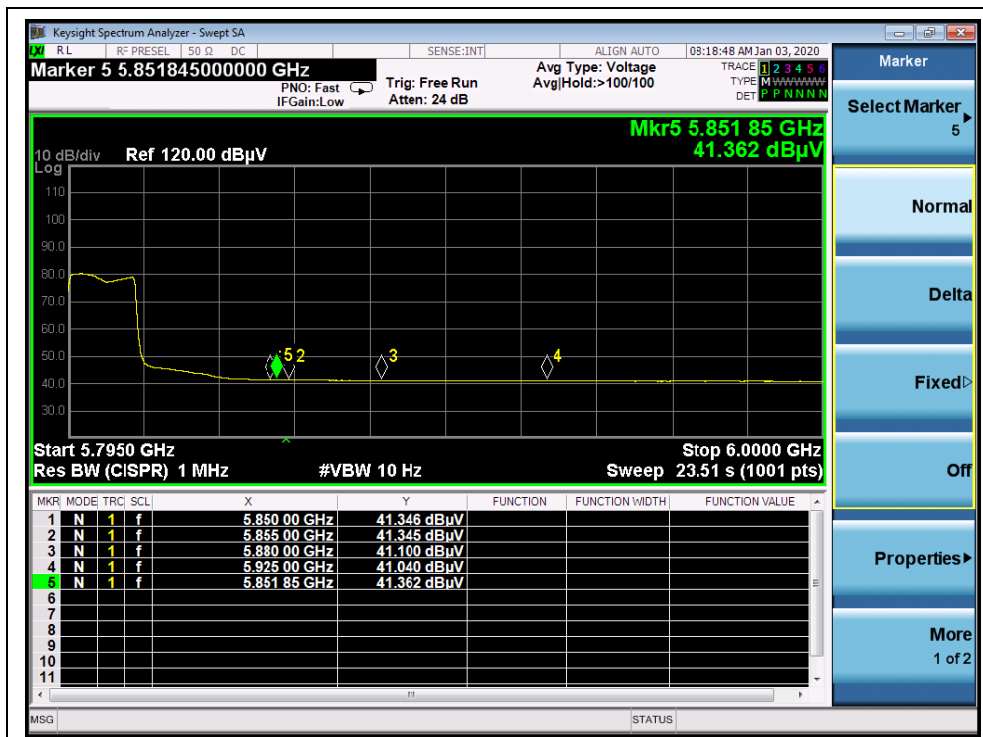
(Channel 151, PEAK, 802.11n (HT40))



(Channel 151, AVG, 802.11n (HT40))



(Channel 159, PEAK, 802.11n (HT40))



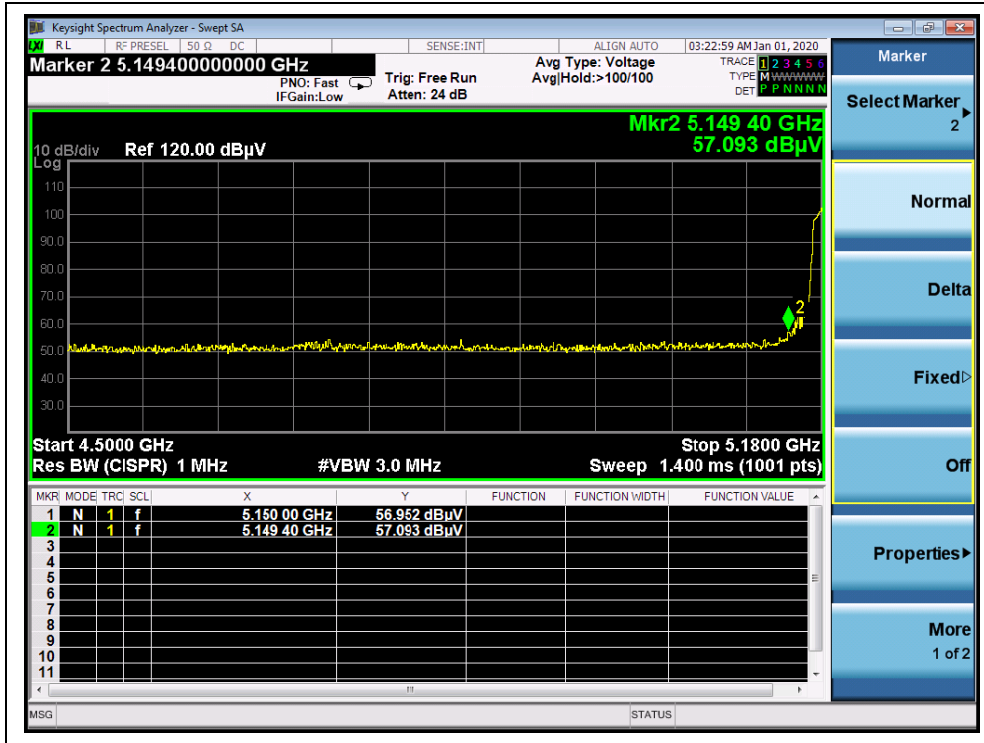
(Channel 159, AVG, 802.11n (HT40))

**802.11ac (VHT20) Test mode****A. Test Verdict:**

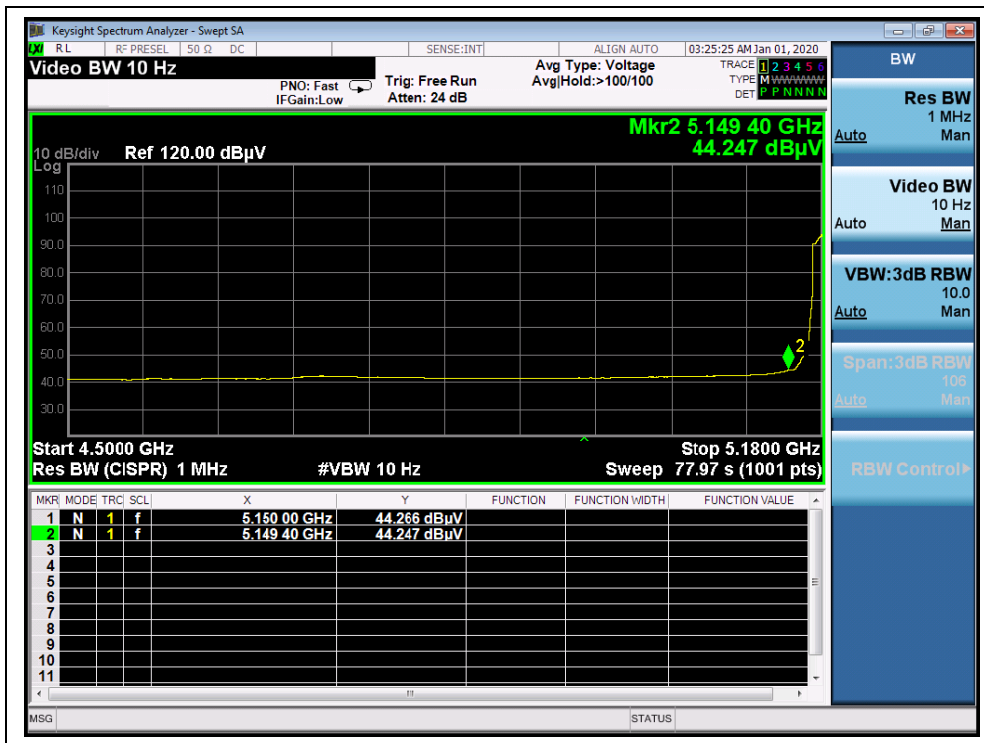
Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dBuV)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
36	5149.40	PK	57.09	-26.92	32.20	62.37	74	PASS
36	5150.00	AV	44.27	-26.92	32.20	49.55	54	PASS
64	5354.34	PK	51.83	-26.80	32.20	57.23	74	PASS
64	5350.00	AV	40.36	-26.80	32.20	45.76	54	PASS
100	5468.00	PK	53.04	-26.64	32.20	58.60	68.23	PASS
100	5470.00	AV	41.95	-26.64	32.20	47.51	54	PASS
144	5733.00	PK	52.44	-26.64	32.20	58.00	68.23	PASS
144	5725.00	AV	41.84	-26.64	32.20	47.40	54	PASS
149	5725.00	PK	61.89	-26.23	32.20	67.86	122.23	PASS
149	5725.00	AV	43.49	-26.23	32.20	49.46	54	PASS
165	5851.78	PK	55.57	-26.23	32.20	61.54	118.17	PASS
165	5850.00	AV	42.39	-26.23	32.20	48.36	54	PASS



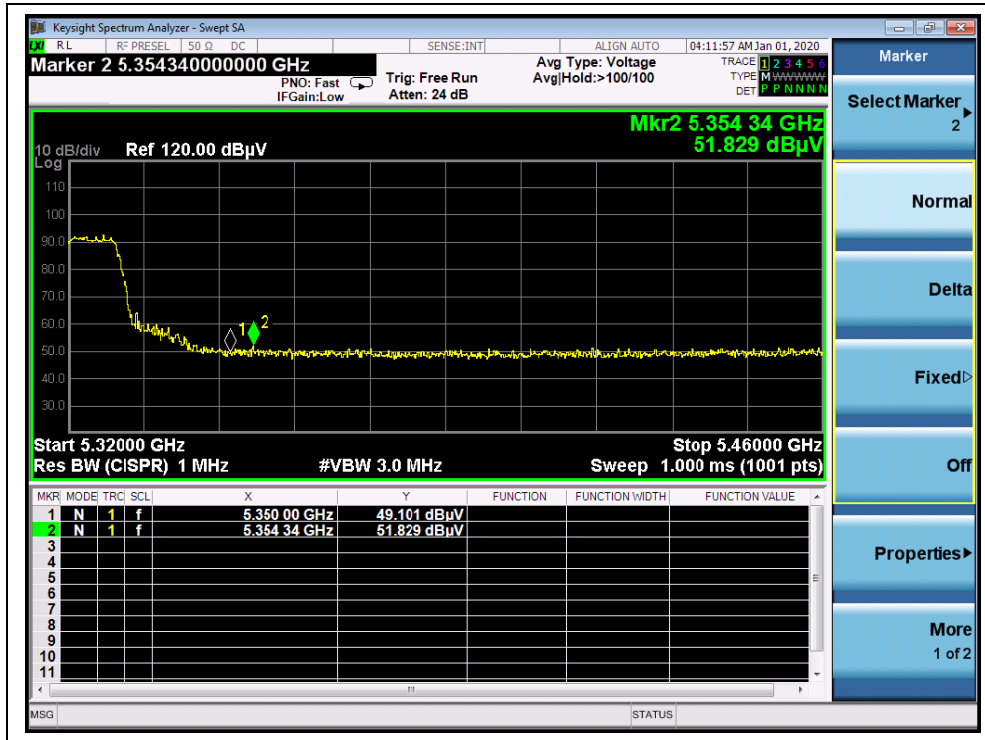
B. Test Plots:



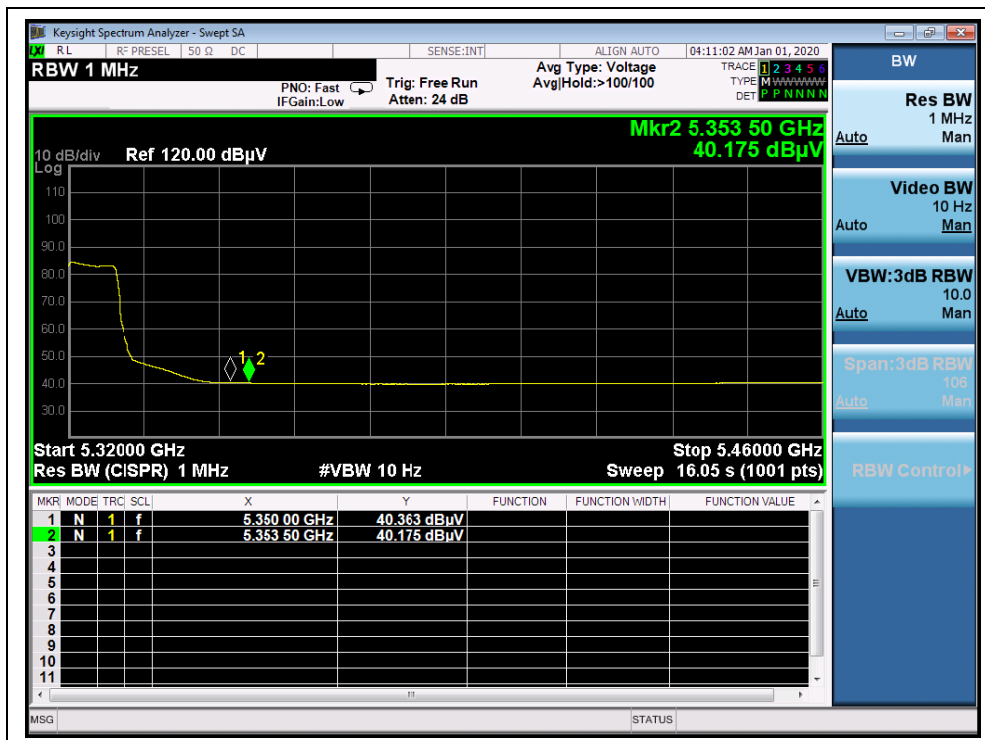
(Channel 36, PEAK, 802.11 ac (VHT20))



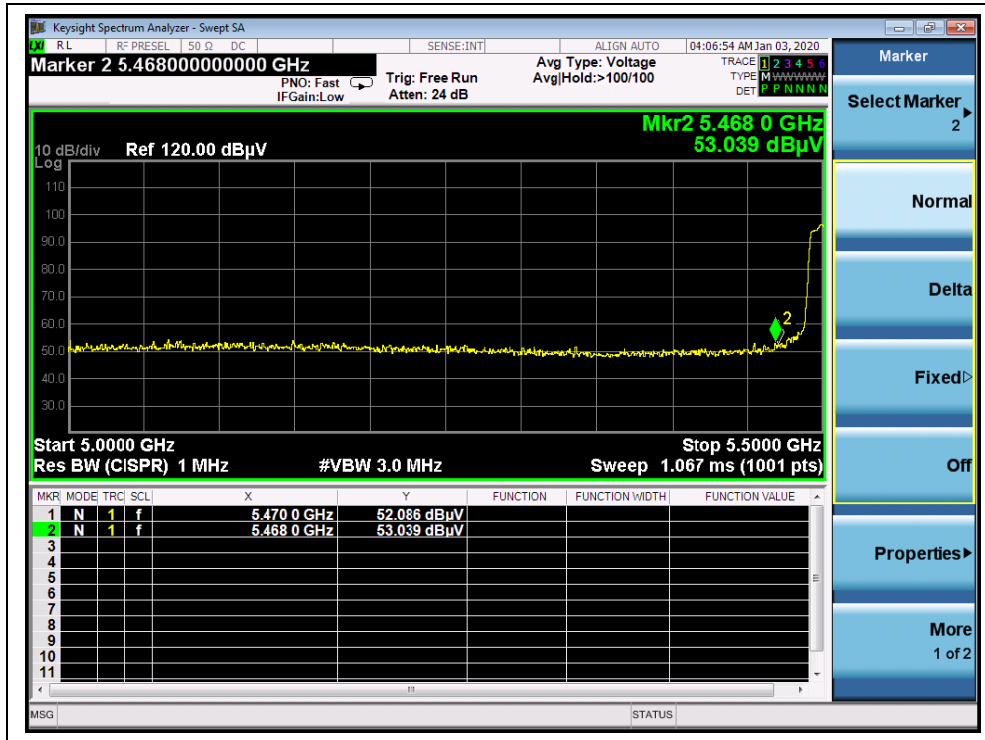
(Channel 36, AVG, 802.11 ac (VHT20))



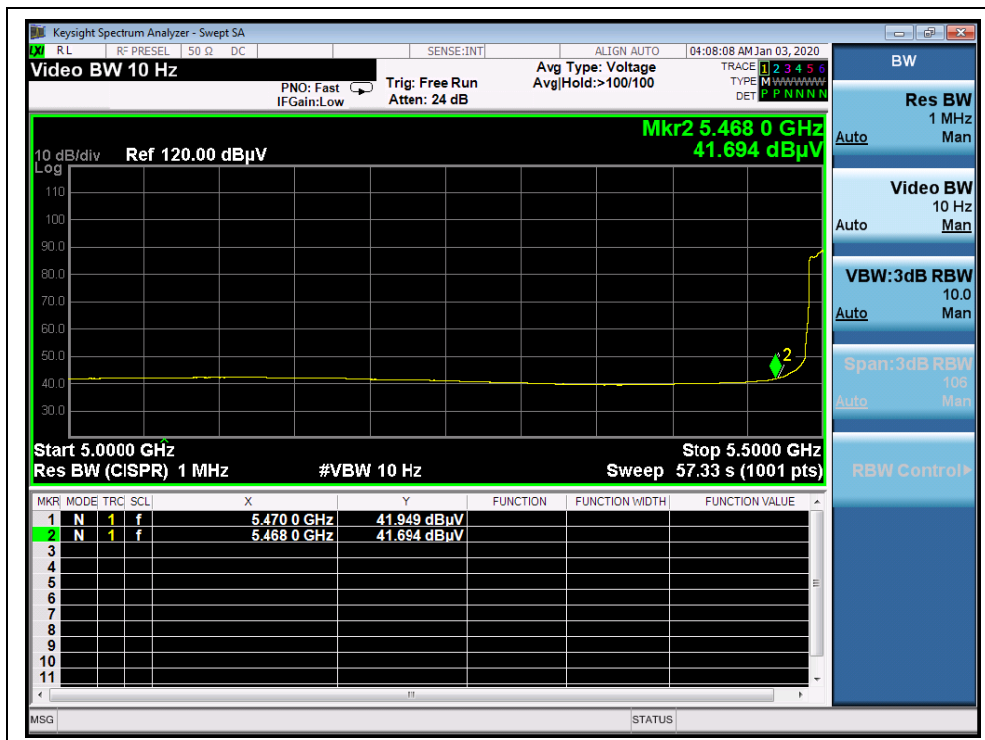
(Channel 64, PEAK, 802.11 ac (VHT20))



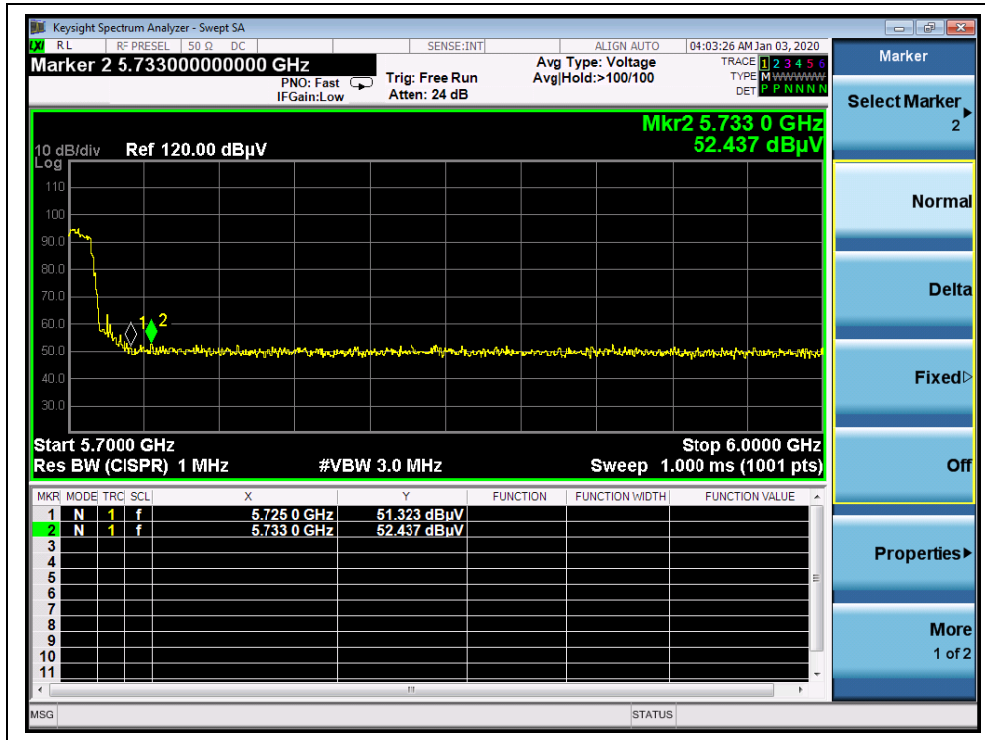
(Channel 64, AVG, 802.11 ac (VHT20))



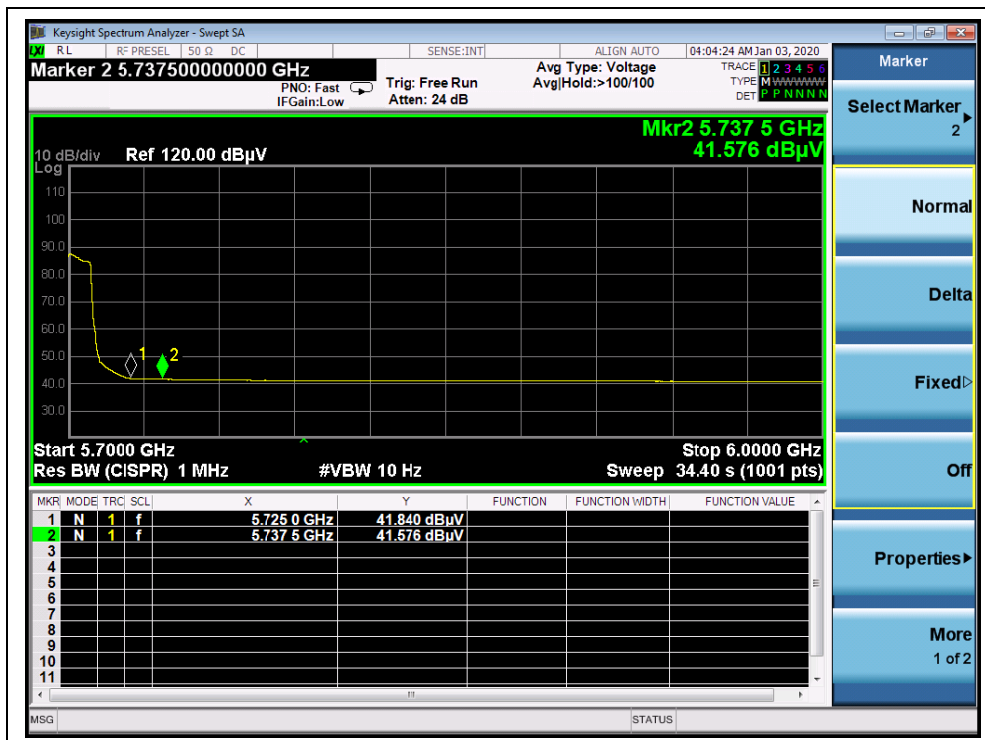
(Channel 100, PEAK, 802.11 ac (VHT20))



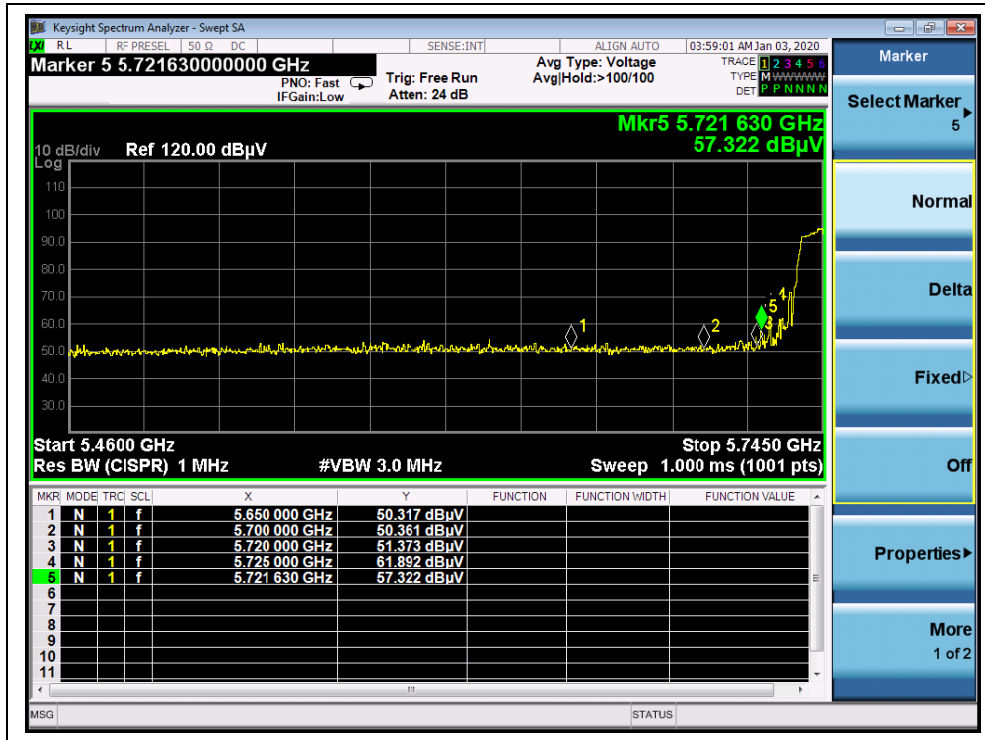
(Channel 100, AVG, 802.11 ac (VHT20))



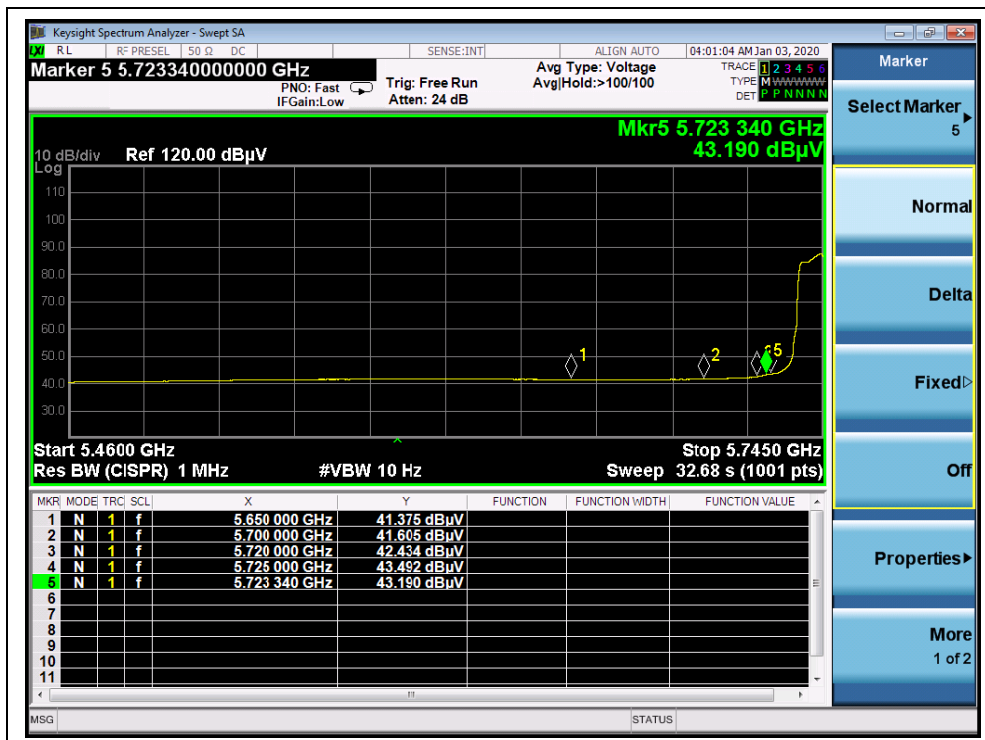
(Channel 144, PEAK, 802.11 ac (VHT20))



(Channel 144, AVG, 802.11 ac (VHT20))



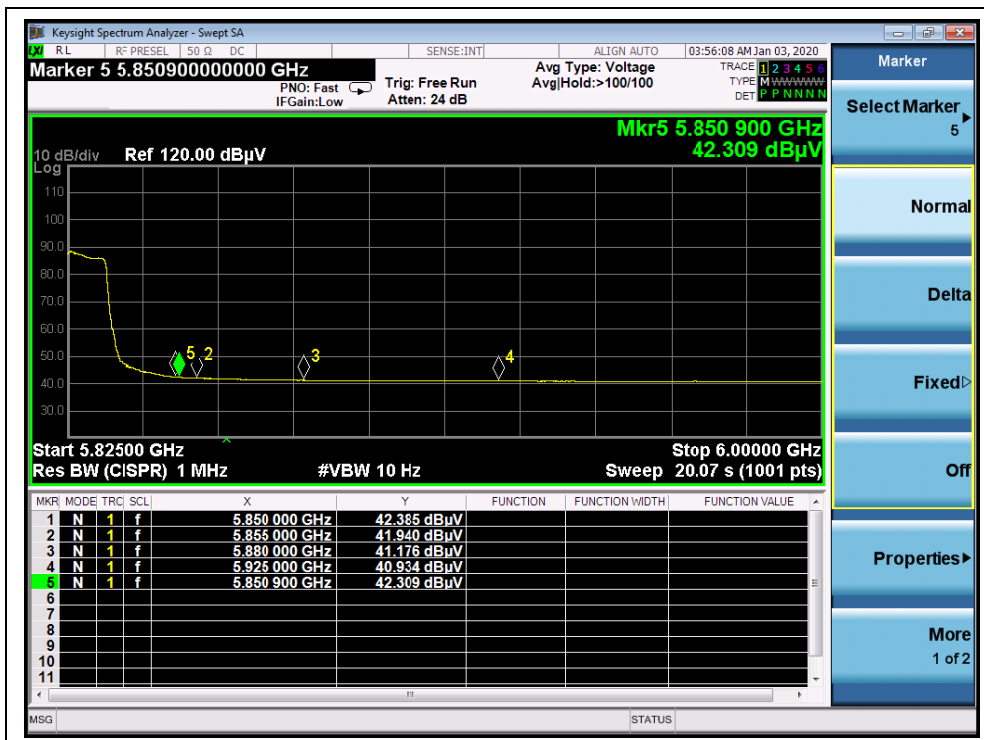
(Channel 149, PEAK, 802.11 ac (VHT20))



(Channel 149, AVG, 802.11 ac (VHT20))



(Channel 165, PEAK, 802.11 ac (VHT20))



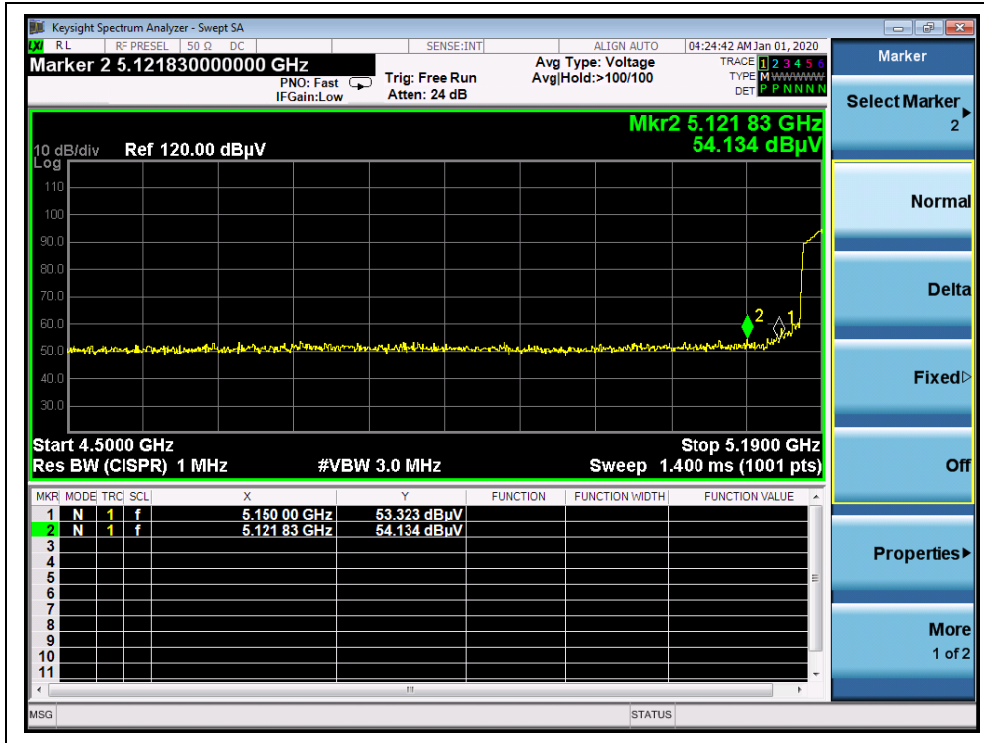
(Channel 165, AVG, 802.11 ac (VHT20))

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

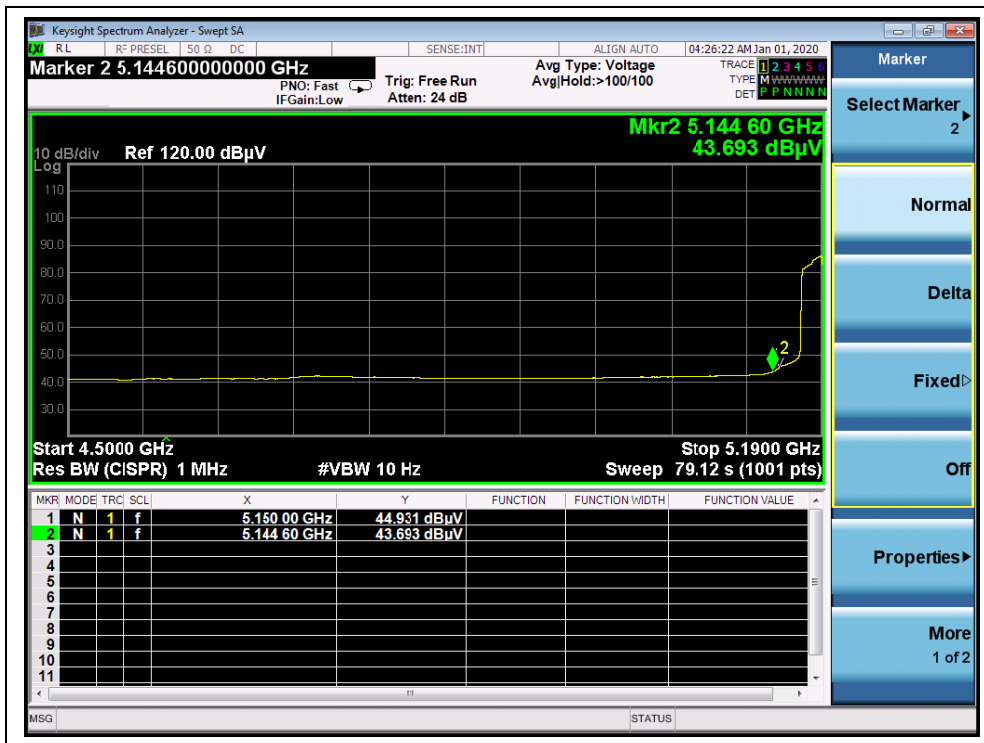
Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dBuV)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
38	5121.83	PK	54.13	-26.92	32.20	59.41	74	PASS
38	5150.00	AV	44.93	-26.92	32.20	50.21	54	PASS
62	5353.90	PK	52.17	-26.80	32.20	57.57	74	PASS
62	5350.00	AV	41.74	-26.80	32.20	47.14	54	PASS
102	5469.20	PK	55.84	-26.64	32.20	61.40	68.23	PASS
102	5470.00	AV	44.96	-26.64	32.20	50.52	54	PASS
142	5739.52	PK	52.42	-26.64	32.20	57.98	68.23	PASS
142	5727.64	AV	41.54	-26.64	32.20	47.10	54	PASS
151	5721.67	PK	57.01	-26.23	32.20	62.98	114.64	PASS
151	5725.00	AV	44.55	-26.23	32.20	50.52	54	PASS
159	5853.22	PK	52.79	-26.23	32.20	58.76	114.89	PASS
159	5850.00	AV	41.32	-26.23	32.20	47.29	54	PASS



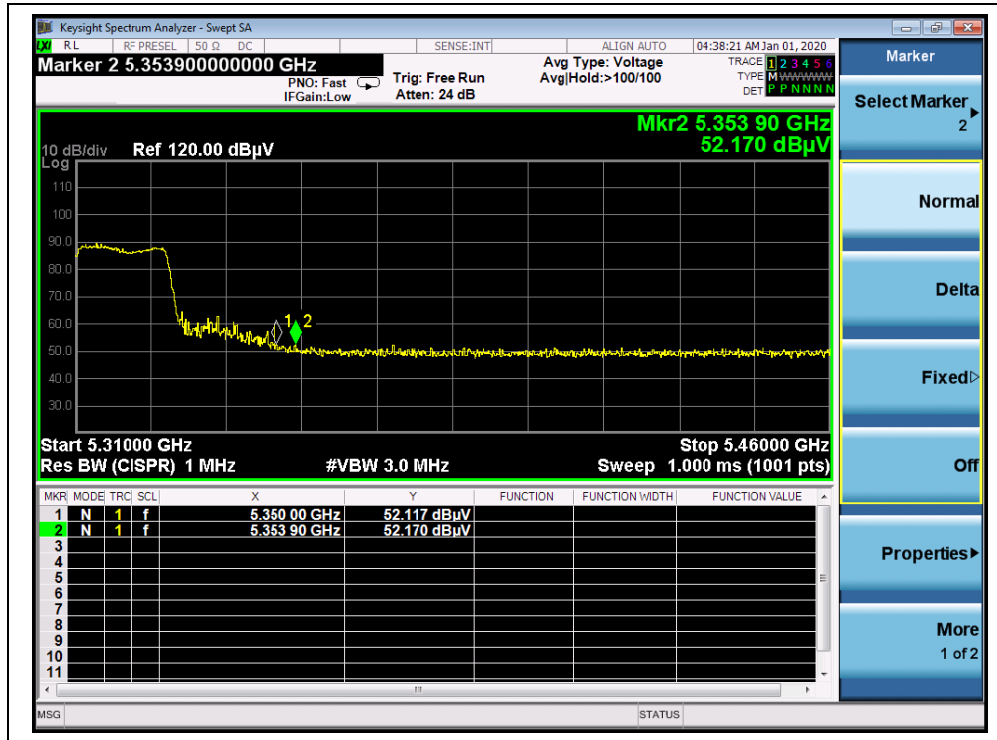
B. Test Plots:



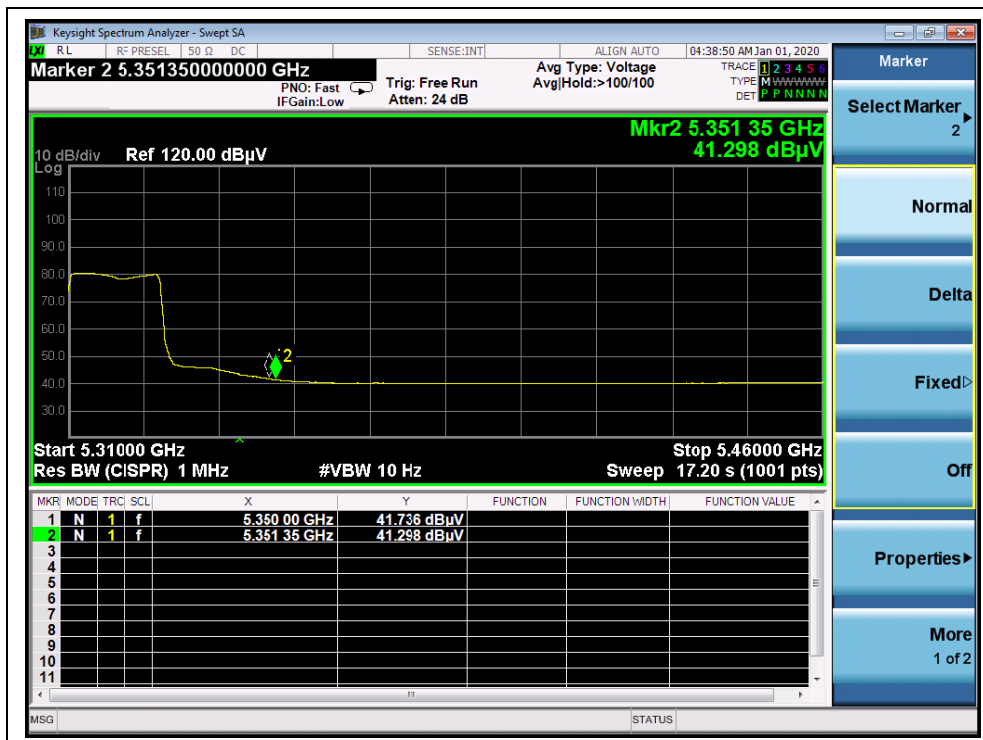
(Channel 38, PEAK, 802.11ac (VHT40))



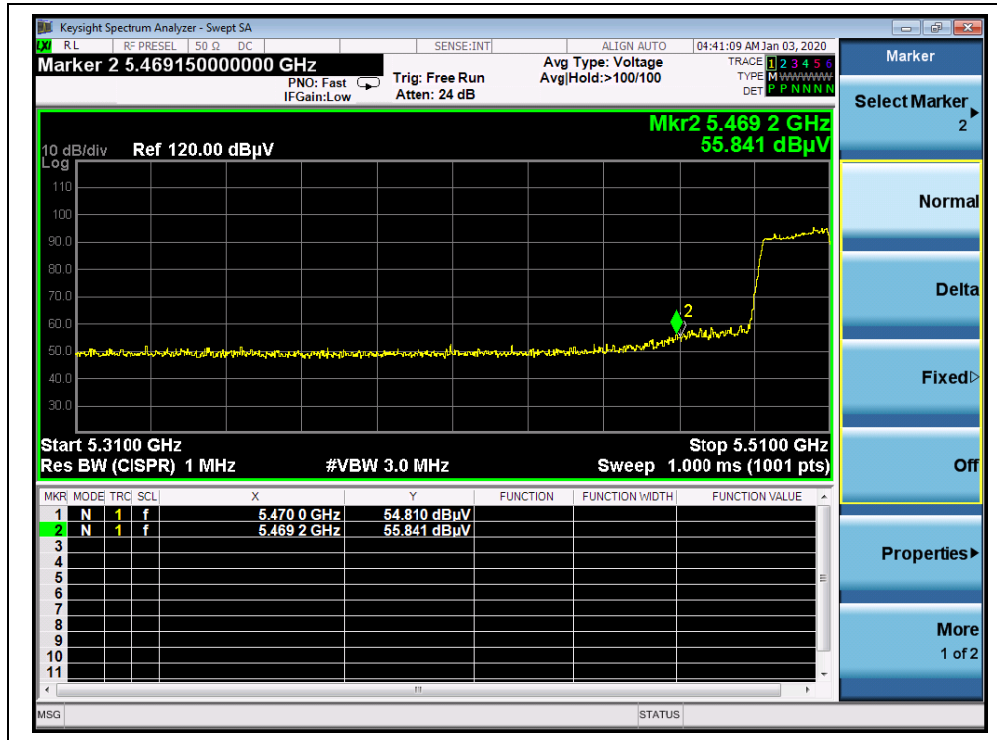
(Channel 38, AVG, 802.11ac (VHT40))



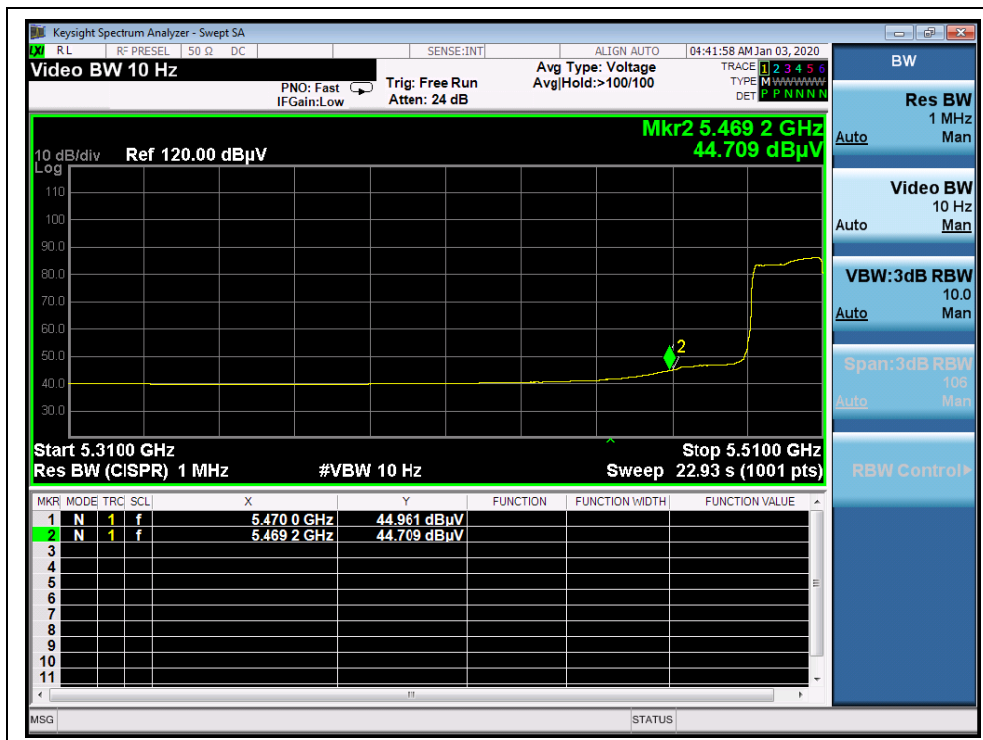
(Channel 62, PEAK, 802.11ac (VHT40))



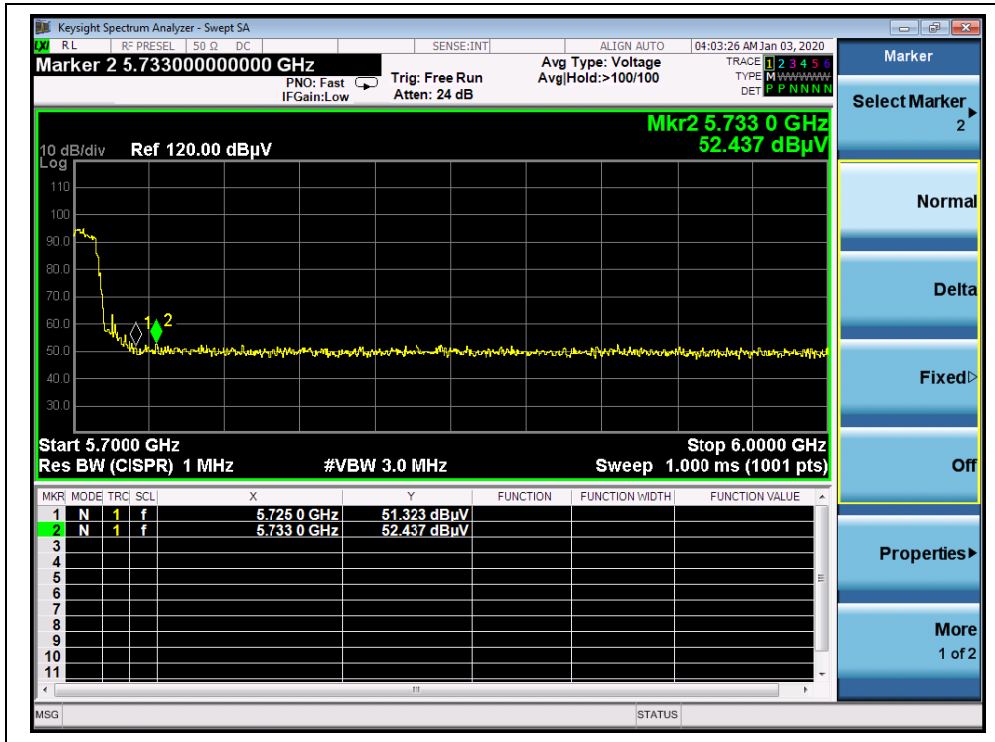
(Channel 62, AVG, 802.11ac (VHT40))



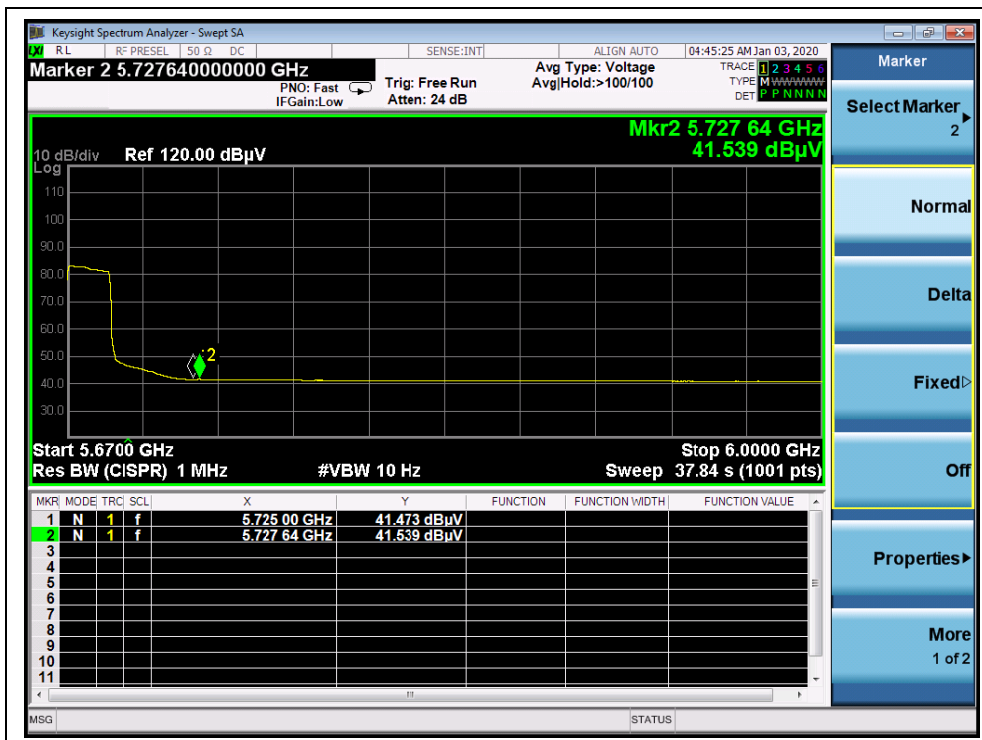
(Channel 102, PEAK, 802.11ac (VHT40))



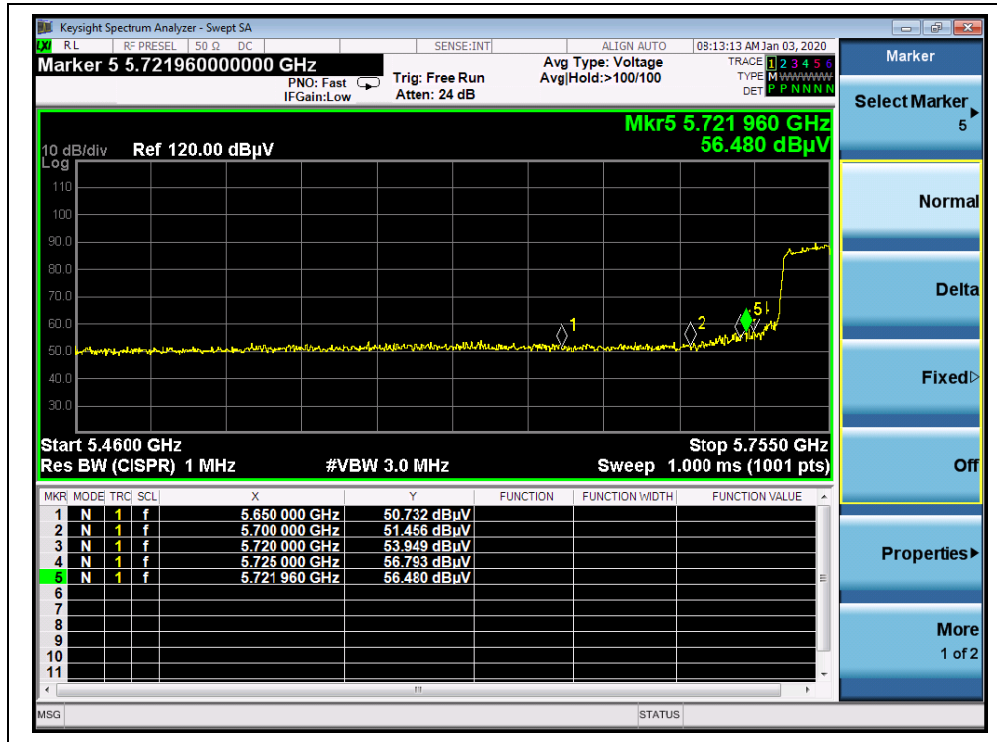
(Channel 102, AVG, 802.11ac (VHT40))



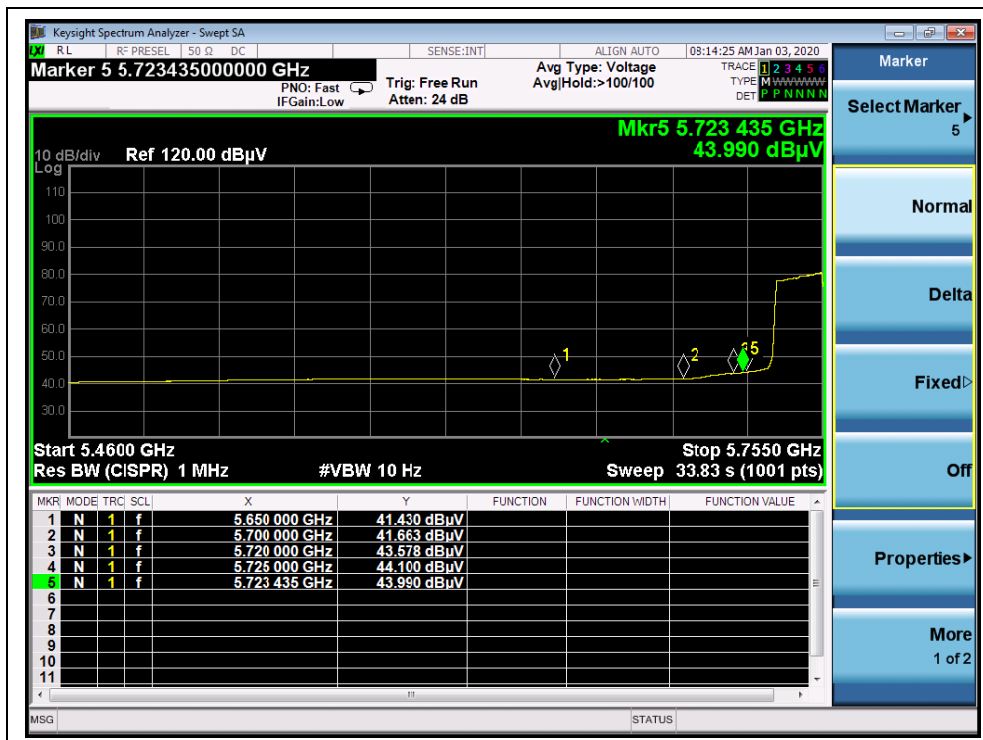
(Channel 142, PEAK, 802.11ac (VHT40))



(Channel 142, AVG, 802.11ac (VHT40))



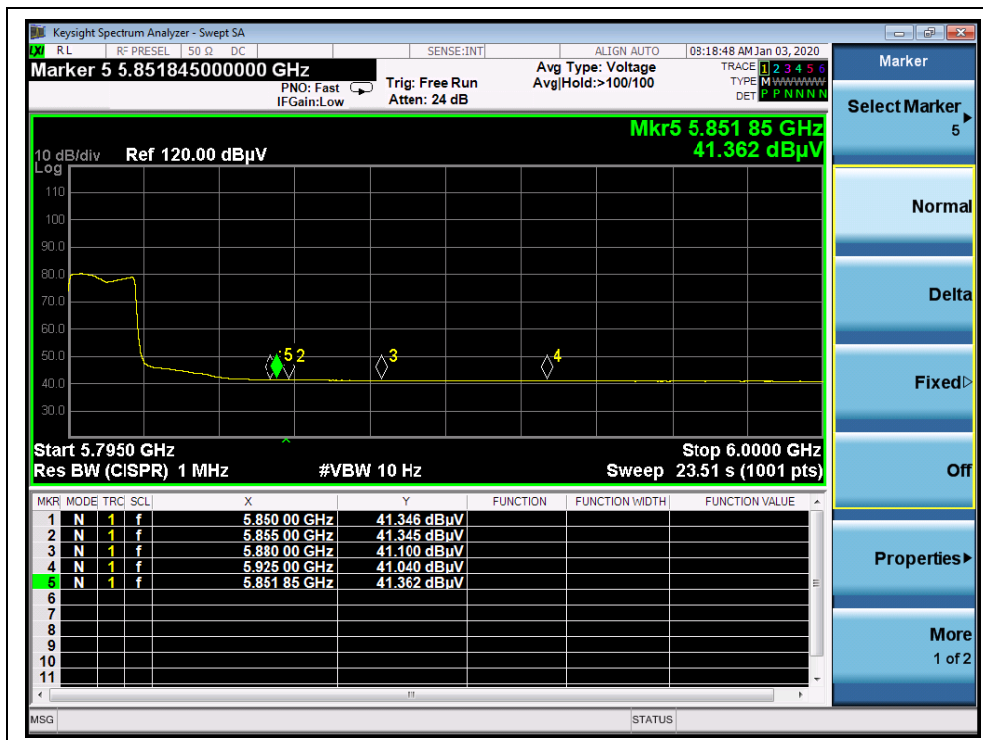
(Channel 151, PEAK, 802.11ac (VHT40))



(Channel 151, AVG, 802.11ac (VHT40))



(Channel 159, PEAK, 802.11ac (VHT40))



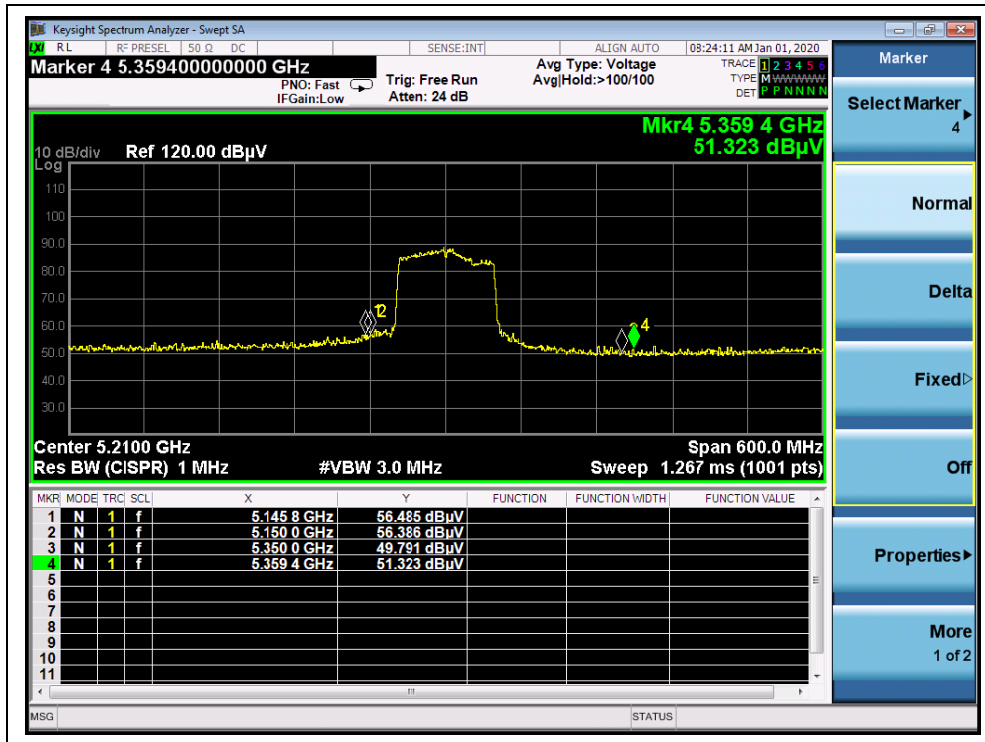
(Channel 159, AVG, 802.11ac (VHT40))

**802.11ac (VHT80) Test mode****A. Test Verdict:**

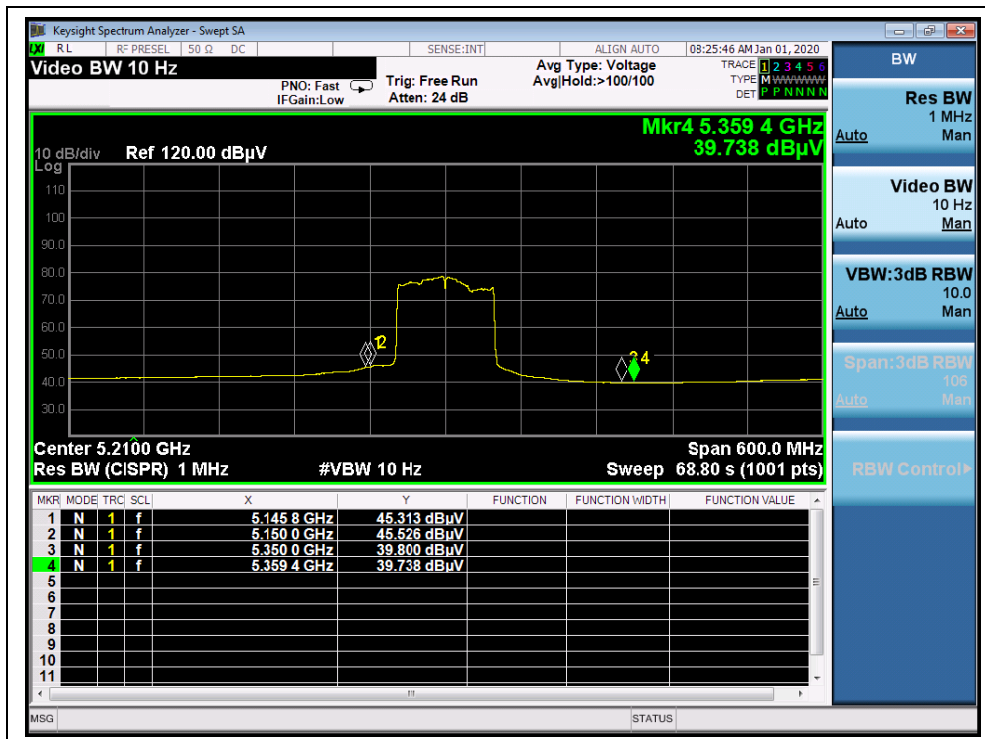
Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dBuV)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
42	5145.80	PK	56.49	-26.92	32.20	61.77	74	PASS
42	5150.00	AV	45.23	-26.92	32.20	50.51	54	PASS
58	5355.20	PK	53.49	-26.80	32.20	58.89	74	PASS
58	5350.00	AV	42.19	-26.80	32.20	47.59	54	PASS
106	5456.33	PK	57.84	-26.64	32.20	63.40	74	PASS
106	5470.00	AV	36.36	-26.64	32.20	41.92	54	PASS
138	5739.04	PK	53.45	-26.64	32.20	59.01	68.23	PASS
138	5736.31	AV	41.45	-26.64	32.20	47.01	54	PASS
155	5718.80	PK	48.49	-26.23	32.20	54.46	110.49	PASS
155	5720.00	AV	38.42	-26.23	32.20	44.39	54	PASS
155	5850.00	PK	49.49	-26.23	32.20	55.46	122.23	PASS
155	5850.00	AV	39.37	-26.23	32.20	45.34	54	PASS



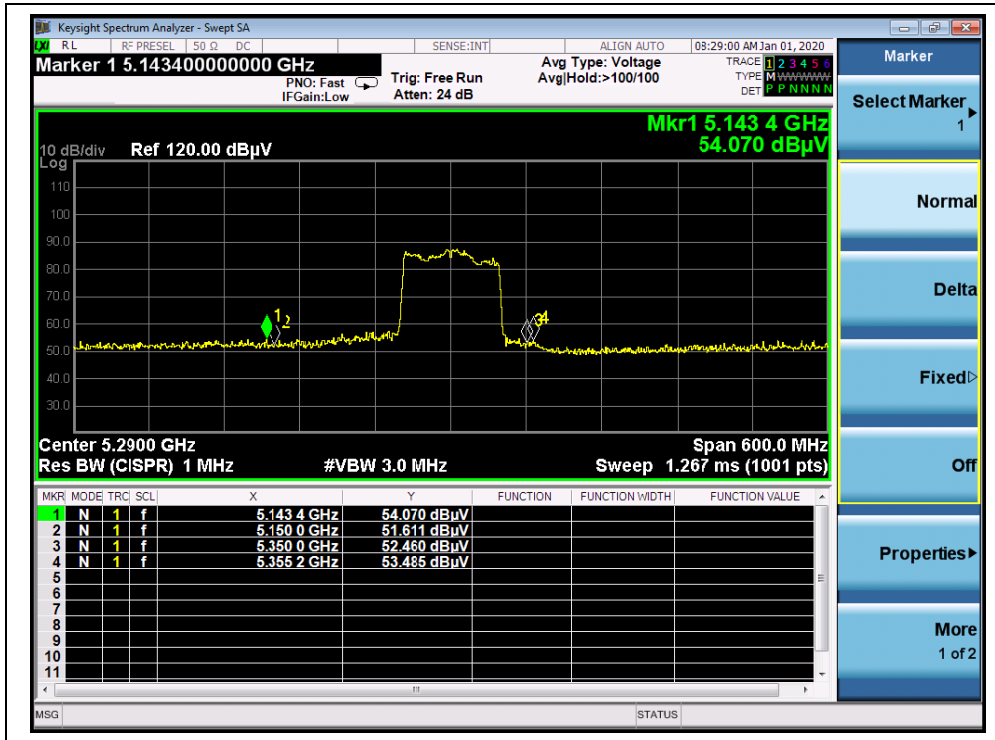
B. Test Plots:



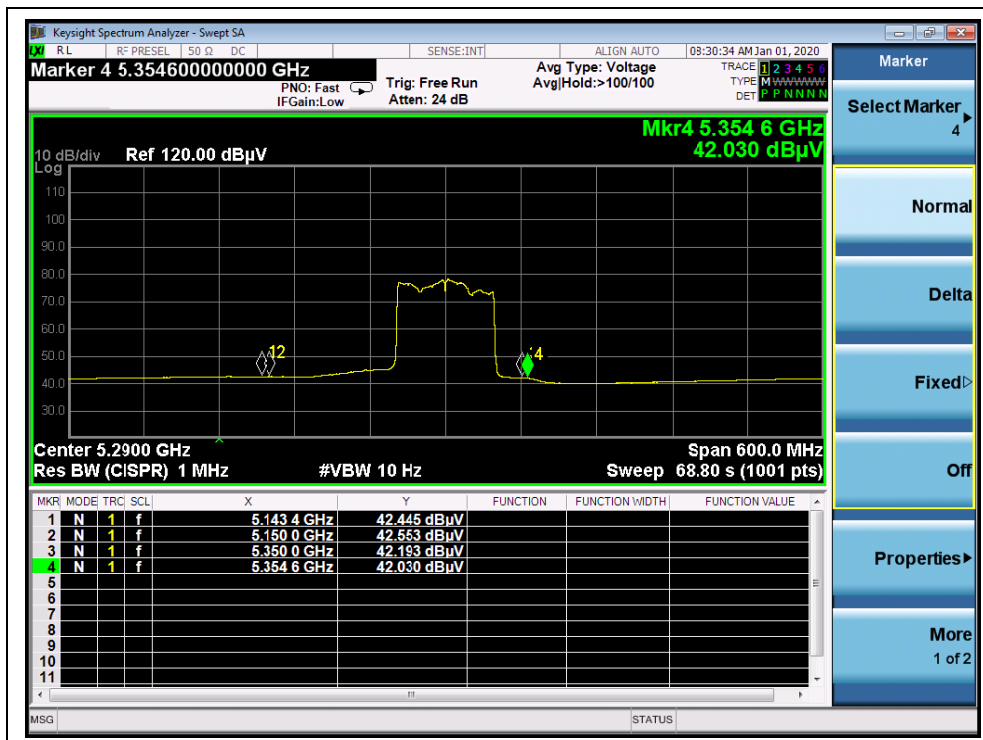
(Channel 42, PEAK, 802.11ac (VHT80))



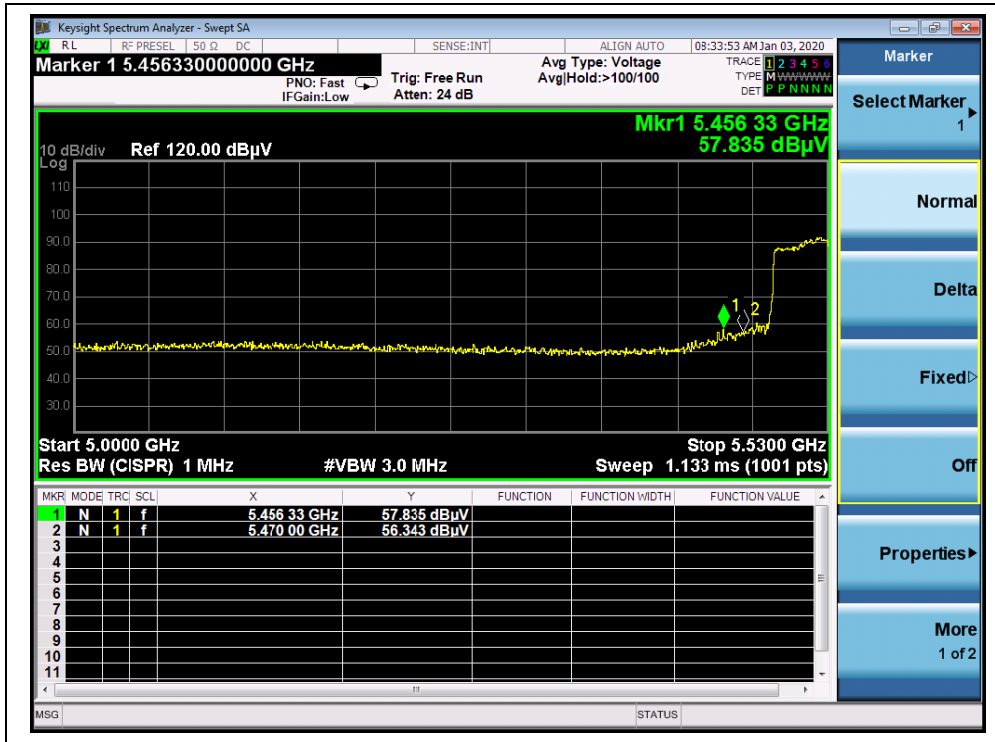
(Channel 42, AVG, 802.11ac (VHT80))



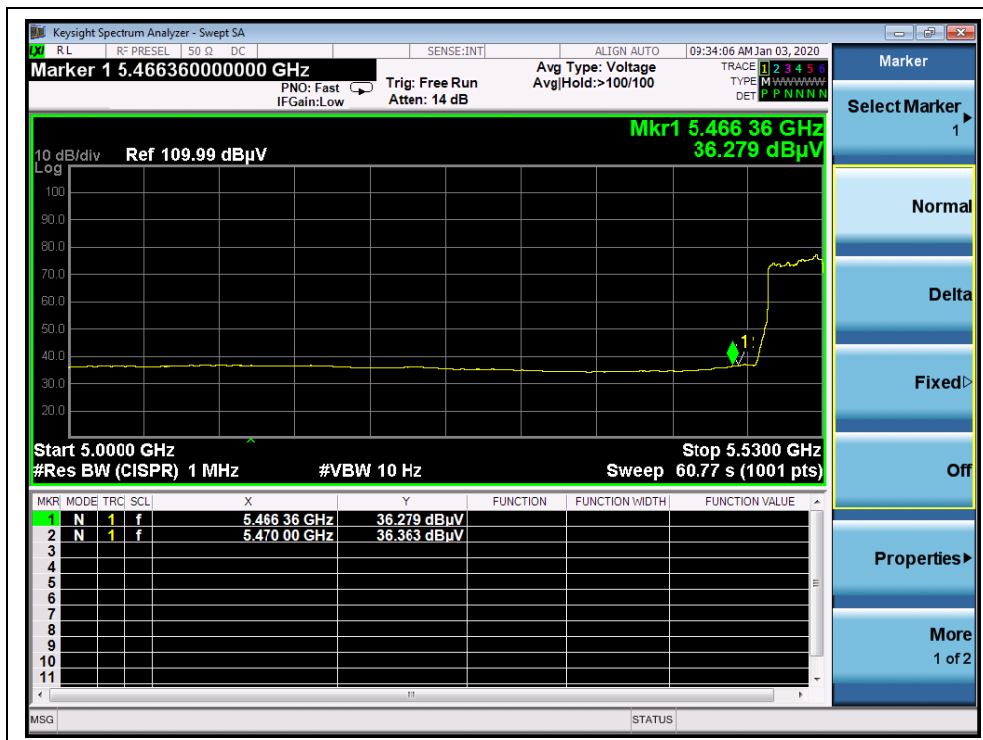
(Channel 58, PEAK, 802.11ac (VHT80))



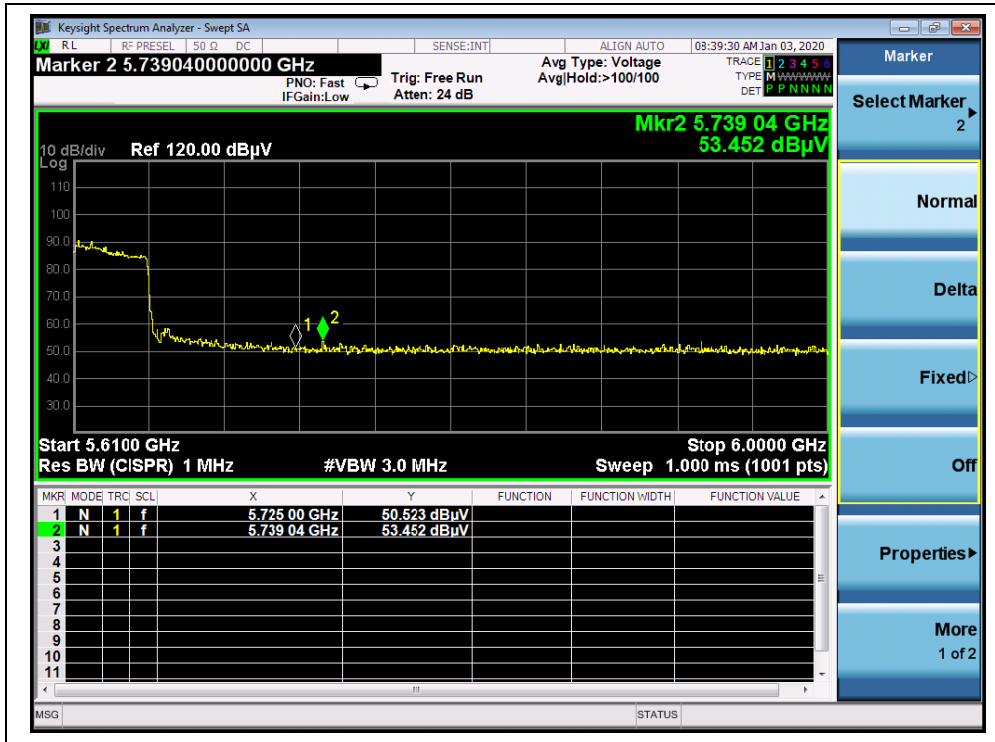
(Channel 58, AVG, 802.11ac (VHT80))



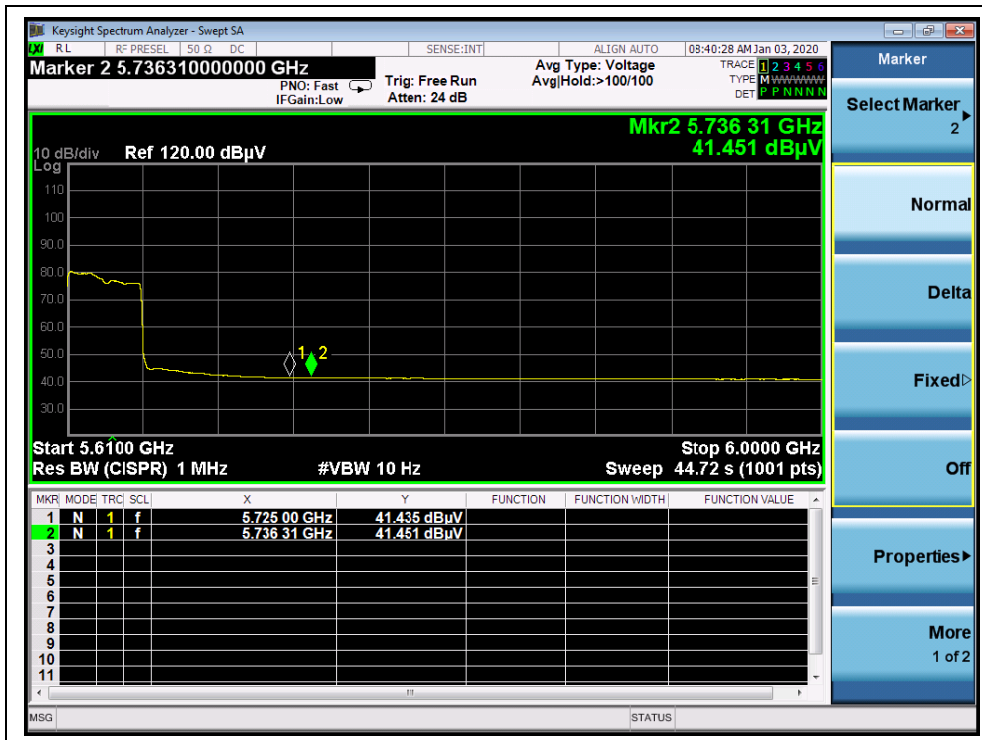
(Channel 106, PEAK, 802.11ac (VHT80))



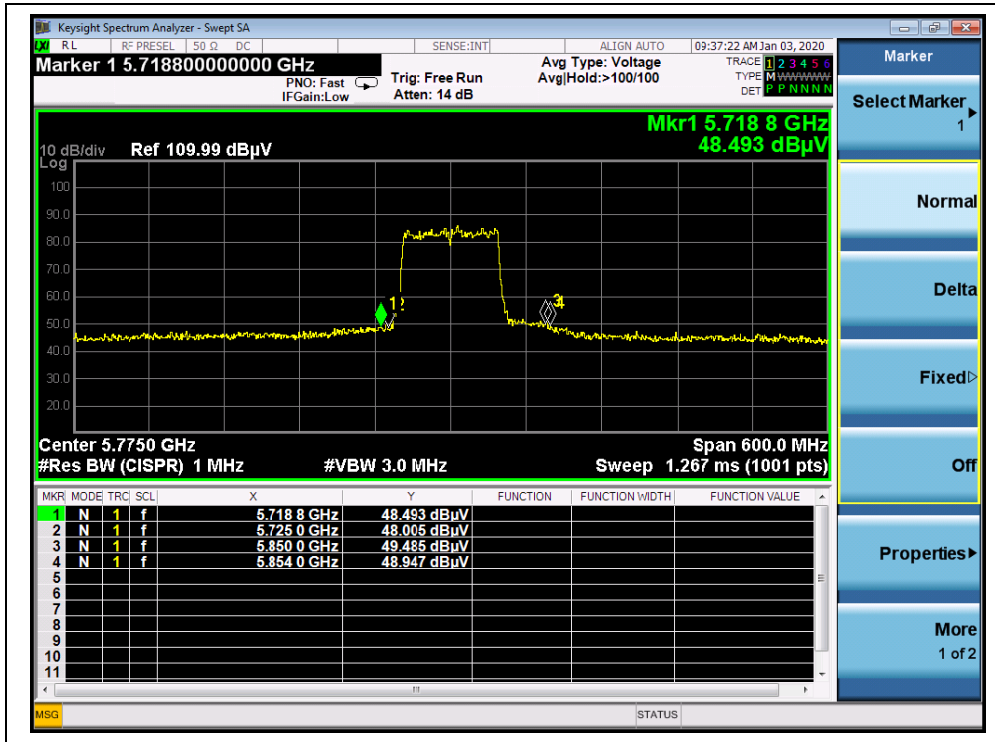
(Channel 106, AVG, 802.11ac (VHT80))



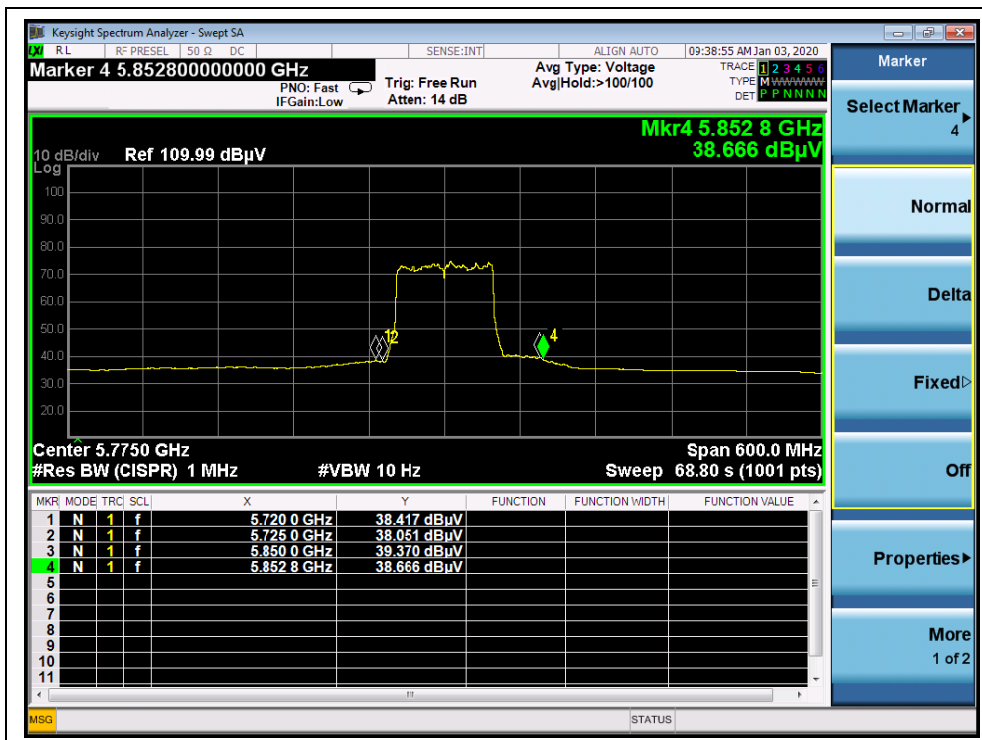
(Channel 138, PEAK, 802.11ac (VHT80))



(Channel 138, AVG, 802.11ac (VHT80))



(Channel 155, PEAK, 802.11ac (VHT80))



(Channel 155, AVG, 802.11ac (VHT80))

2.9. Radiated Emission

2.9.1. Requirement

The peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

The following formula is used to convert the equipment isotropic radiated power(eirp) to field strength (dBμV/m);

$$E = 1000000 \times \sqrt{30P} / 3 \mu\text{V/m}$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz = 68.23 dBuV/m

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

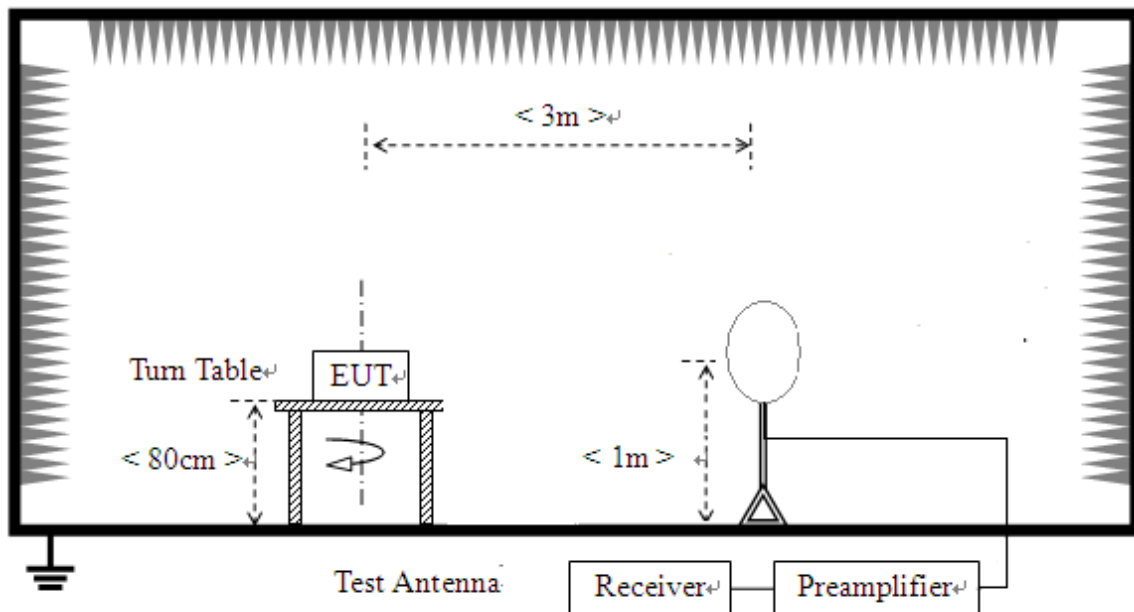
Note:

For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

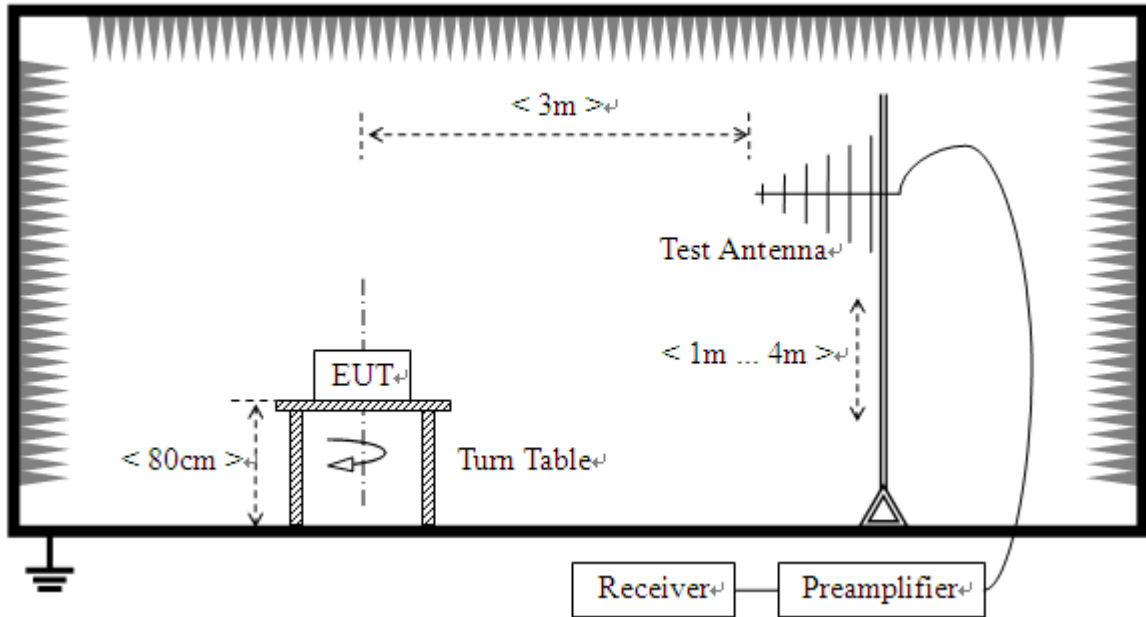
In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table)

2.9.2. Test Description**Test Setup:**

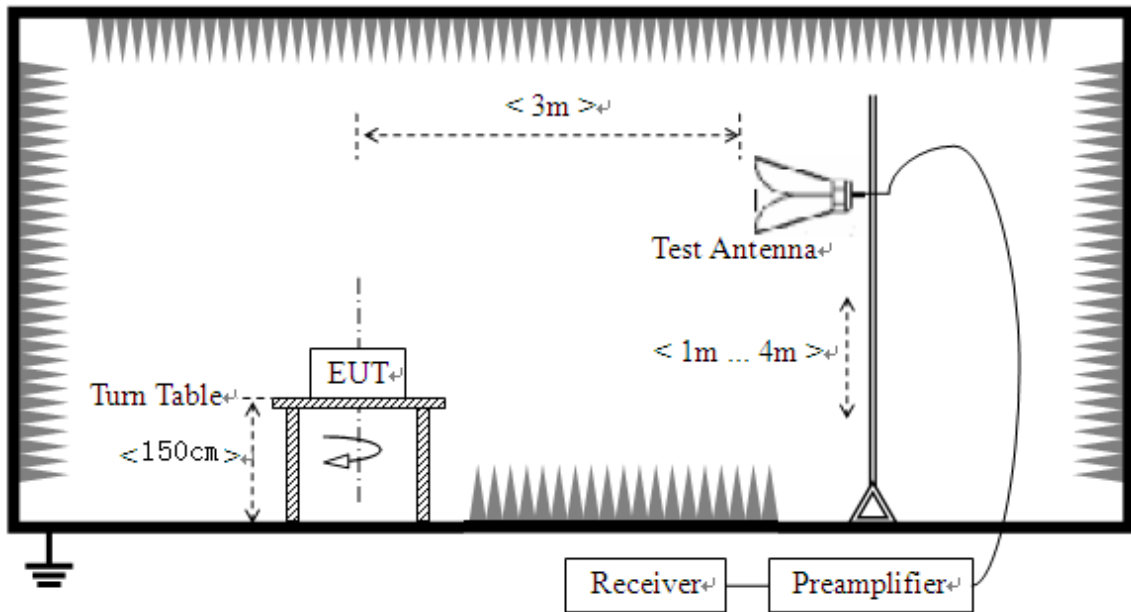
- 1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to1GHz



3) For radiated emissions above 1GHz



The RF absorbing material used on the reference ground plane and on the turntable have a maximum height (thickness) of 30 cm (12 in) and have a minimum-rated attenuation of 20 dB at all frequencies from 1 GHz to 18 GHz.

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.10 (2013). For radiated emissions below or equal to 1GHz, The EUT was set-up on insulator 80cm above the Ground Plane, For radiated emissions above 1GHz, The EUT