

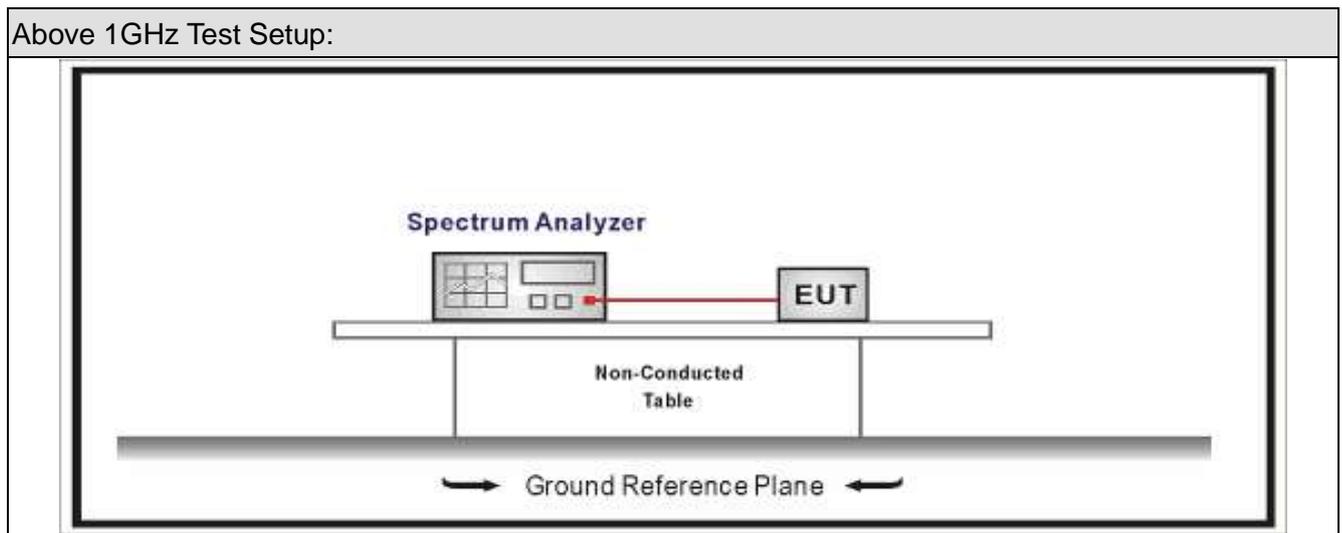
## 9. Conducted Band Edge

### 9.1. Test Equipment

Conducted Band Edge / AC-5					
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2018.02.04	2019.02.03
EXA Spectrum Analyzer	Keysight	N9010A	MY55370495	2018.04.09	2019.04.08
MXA Signal Analyzer	Keysight	N9020A	MY56060147	2018.04.09	2019.04.08
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2018.04.10	2019.04.09

Note: All equipment are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

### 9.2. Test Setup



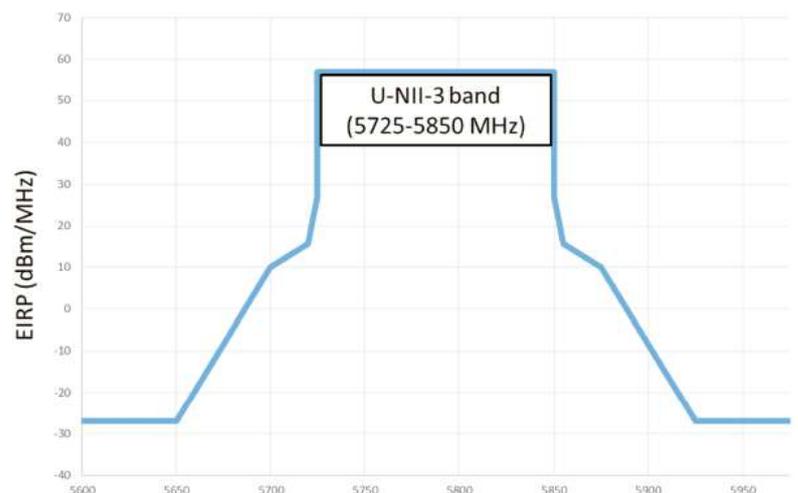
### 9.3. Limit

Radiated Emissions Limit			
Frequency (MHz)	Field strength ( $\mu$ V/m)	Field strength (dB $\mu$ V/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	30 <sub>(Note 1)</sub>
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 <sub>(Note 1)</sub>
1.705 - 30	30	29.5	30 <sub>(Note 1)</sub>
30 - 88	100	40	3 <sub>(Note 2)</sub>
88 - 216	150	43.5	3 <sub>(Note 2)</sub>
216 - 960	200	46	3 <sub>(Note 2)</sub>
Above 960	500	54	3 <sub>(Note 2)</sub>

Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

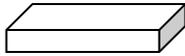
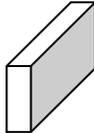
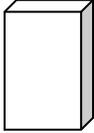
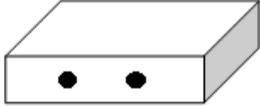
Restricted Bands of operation			
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
	13.36 - 13.41	960 - 1427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1435 - 1626.5	9.3 - 9.5
2.1735 - 2.1905	16.69475 - 16.69525	1645.5 - 1646.5	10.6 - 12.7
3.020 - 3.026	16.80425 - 16.80475	1660 - 1710	13.25 - 13.4
4.125 - 4.128	25.5 - 25.67	1718.8 - 1722.2	14.47 - 14.5
4.17725 - 4.17775	37.5 - 38.25	2200 - 2300	15.35 - 16.2
4.20725 - 4.20775	73 - 74.6	2310 - 2390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2483.5 - 2500	22.01 - 23.12
6.215 - 6.218	108 - 138	2655 - 2900	23.6 - 24.0
6.26775 - 6.26825	149.9 - 150.05	3260 - 3267	31.2 - 31.8
6.31175 - 6.31225	156.52475 - 156.52525	3332 - 3339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3345.8 - 3358	Above 38.6
8.362 - 8.366	162.0125 - 167.17	3500 - 4400	
8.37625 - 8.38675	167.72 - 173.2	4500 - 5150	
8.41425 - 8.41475	240 - 285	5350 - 5460	
12.29 - 12.293	322 - 335.4	7250 - 7750	
12.51975 - 12.52025	399.9 - 410	8025 - 8500	
12.57675 - 12.57725	608 - 614	--	

Radiated Emissions Limit		
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dB $\mu$ V/m)
5150 - 5250	-27	68.3
5250 - 5350	-27	68.3
5470 - 5725	-27	68.3
Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	
5725 - 5850	 <p>U-NII-3 band (5725-5850 MHz)</p>	

### 9.4. Test Procedure

Test Method			
	References Rule	Chapter	Description
<input type="checkbox"/>	ANSI C63.10	12.7.3	Emissions in non-restricted frequency bands
<input checked="" type="checkbox"/>	ANSI C63.10	12.7.2	Emissions in restricted frequency bands
	<input type="checkbox"/> ANSI C63.10	12.7.5	Radiated emission measurements
	<input checked="" type="checkbox"/> ANSI C63.10	12.7.6	Procedure for peak unwanted emissions measurements above 1000 MHz
	<input checked="" type="checkbox"/> ANSI C63.10	12.7.7	Procedures for average unwanted emissions measurements above 1000 MHz
	<input type="checkbox"/> ANSI C63.10	12.7.7.2	Method AD (average detection)—primary method
	<input checked="" type="checkbox"/> ANSI C63.10	12.7.7.3	Method VB-A (Alternative)
	<input type="checkbox"/> ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	<input type="checkbox"/> ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	<input type="checkbox"/> ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz
<input type="checkbox"/>	FCC KDB 789033 D02v02r01	G.2	Unwanted Emissions that fall Outside of the Restricted Bands
<input type="checkbox"/>	FCC KDB 789033 D02v02r01	G.1	Unwanted Emissions in the Restricted Bands
	<input type="checkbox"/> FCC KDB 789033 D02v02r01	G.4	Procedure for Unwanted Emissions Measurements below 1000 MHz
	<input type="checkbox"/> FCC KDB 789033 D02v02r01	G.5	Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz
	<input type="checkbox"/> FCC KDB 789033 D02v02r01	G.6	Procedures for Average Unwanted Emissions Measurements above 1000 MHz
	<input type="checkbox"/> FCC KDB 789033 D02v02r01	G.6.c	Method AD (Average detection)—primary method
	<input type="checkbox"/> FCC KDB 789033 D02v02r01	G.6.d	Method VB (Averaging using reduced video bandwidth): Alternative method.

**9.5. EUT test Axis definition**

Item	Radiated Emission Band Edge			
Device Category	<input type="checkbox"/>	Outdoor AP		
	<input checked="" type="checkbox"/>	Indoor AP		
	<input type="checkbox"/>	Fixed point-to-point AP		
	<input type="checkbox"/>	Outdoor fixed point-to-multipoint AP		
	<input type="checkbox"/>	Client(Peer-to-peer)		
Test mode	Mode 1-9			
Test method	<input type="checkbox"/>	Radiated		
	<input type="checkbox"/>	X Axis	Y Axis	Z Axis
				
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	Conducted		
	<input type="checkbox"/>	Chain 1		
	<input checked="" type="checkbox"/>			
		Chain 1	Chain 2	
	<input checked="" type="checkbox"/>			
		Chain 1	Chain 2	Chain 3
<input type="checkbox"/>				

### 9.6. Test Result

AV-Ant 1+2 with CDD:

Band I AV Limit=54 dBuV/m-95.2-10lg2 (2tx) -9 ( Directional Gain =-53.2dbm

5180MHz by 802.11a:





5190MHz by 802.11n(40MHz):



5180MHz by 802.11ac(20MHz):





5210MHz by 802.11ac(80MHz):



5180MHz by 802.11ax(20MHz):



5190MHz by 802.11ax(40MHz):



5210MHz by 802.11ax(80MHz):



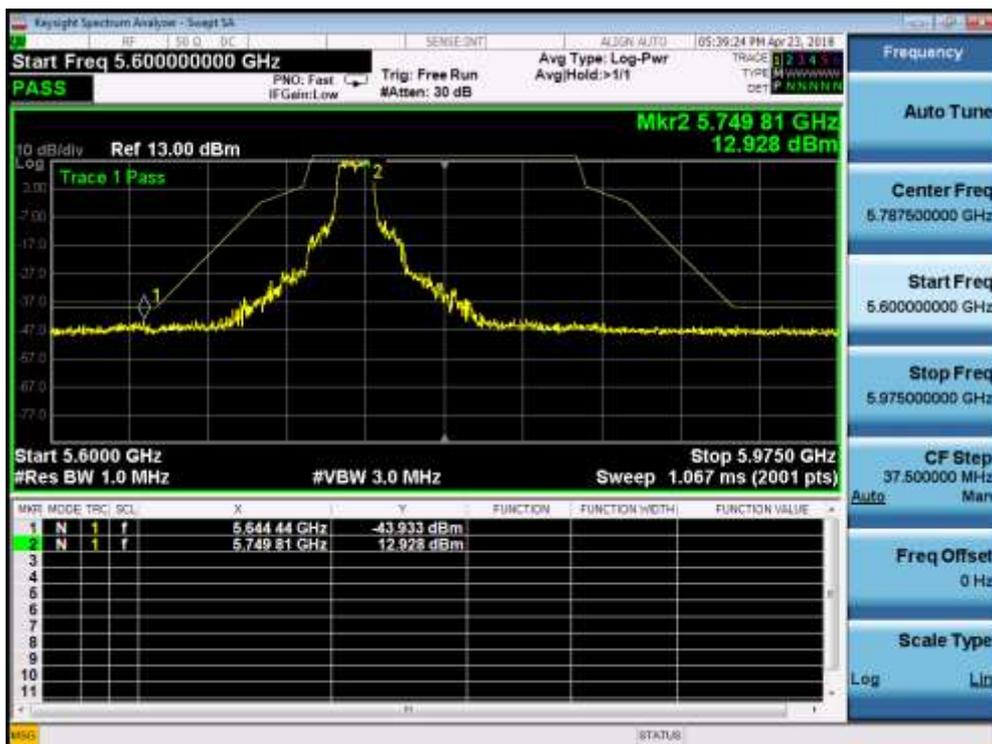
PK-Ant 1+2 with CDD:

Band I PK Limit=74 dBuV/m-95.2-10lg2 (2tx) -9 (Directional Gain) =-33.2dbm

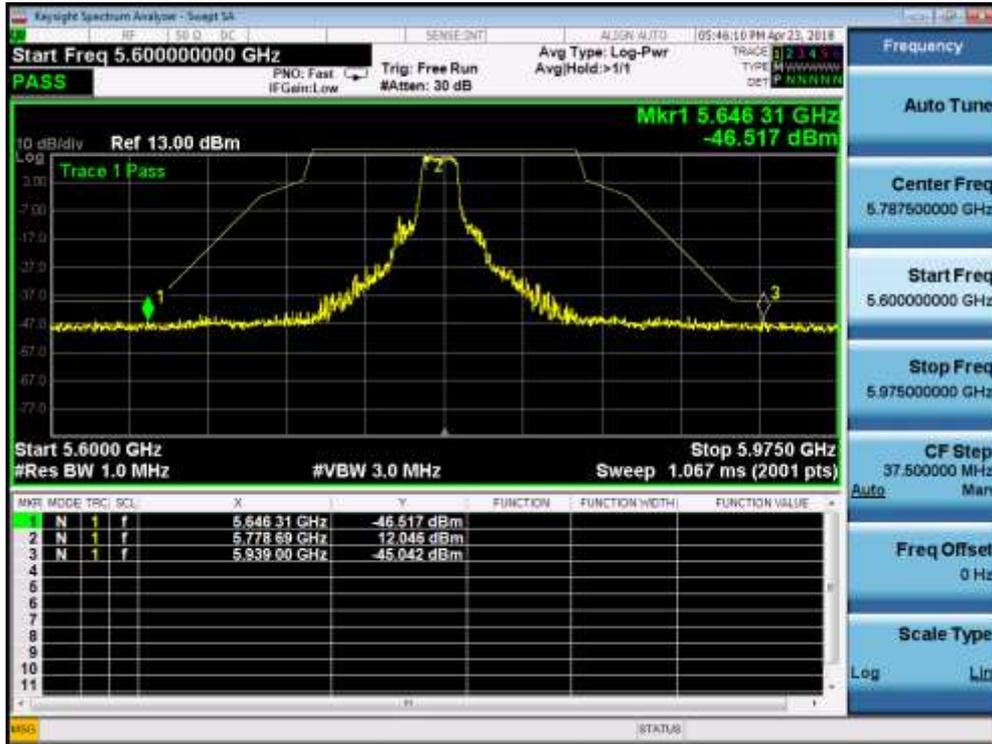
5180MHz by 802.11a:



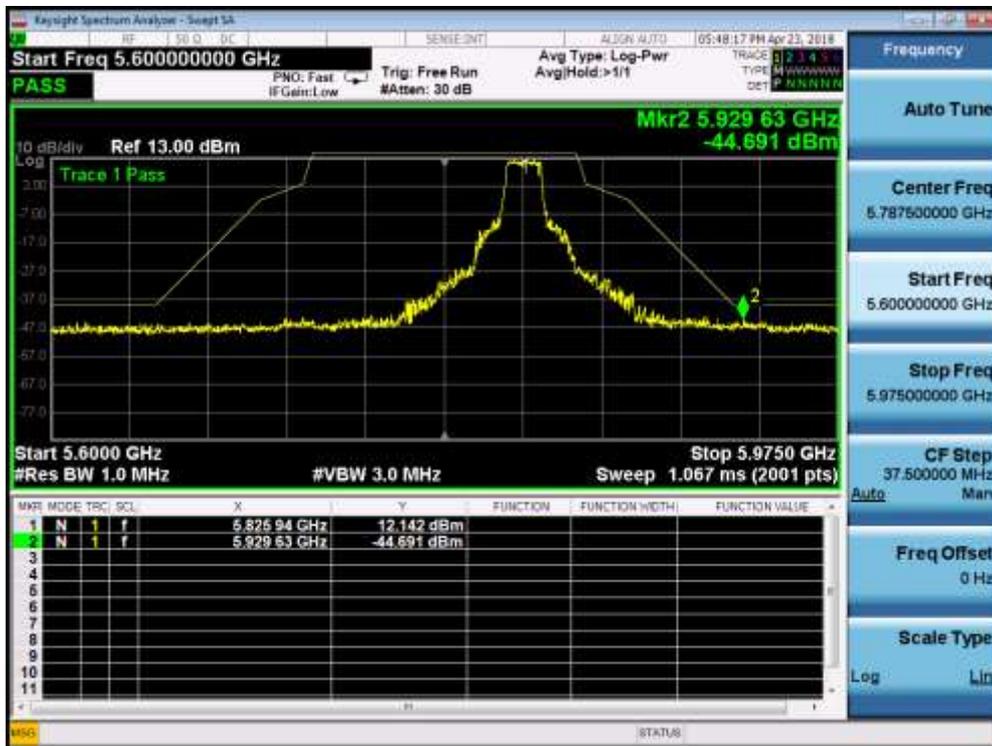
5745MHz by 802.11a:



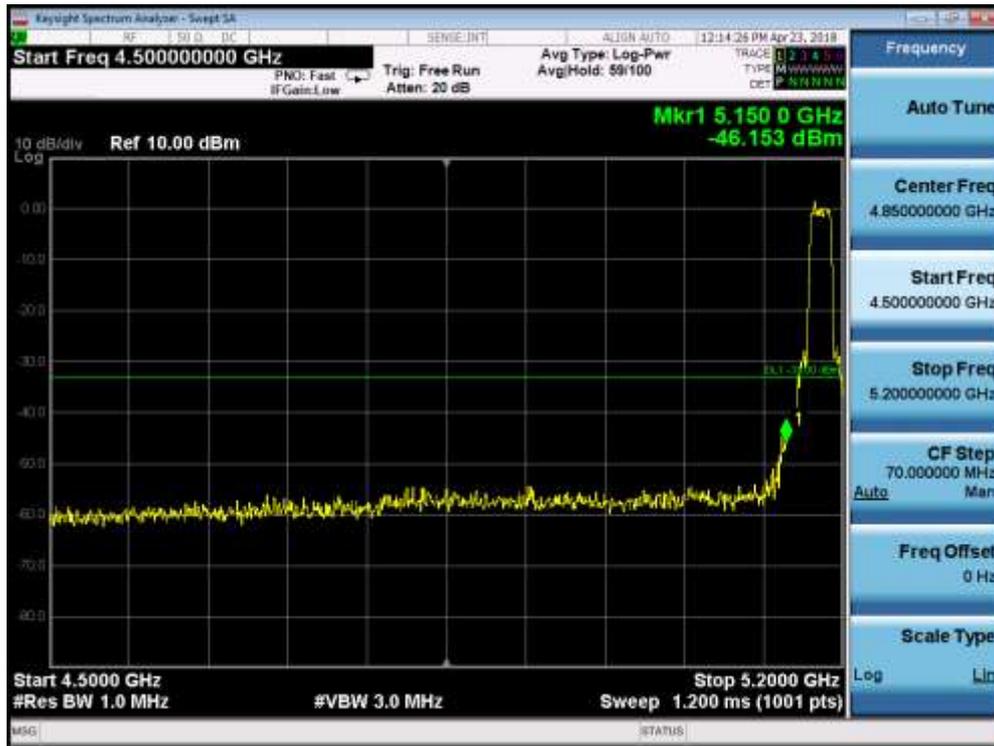
5785MHz by 802.11a:



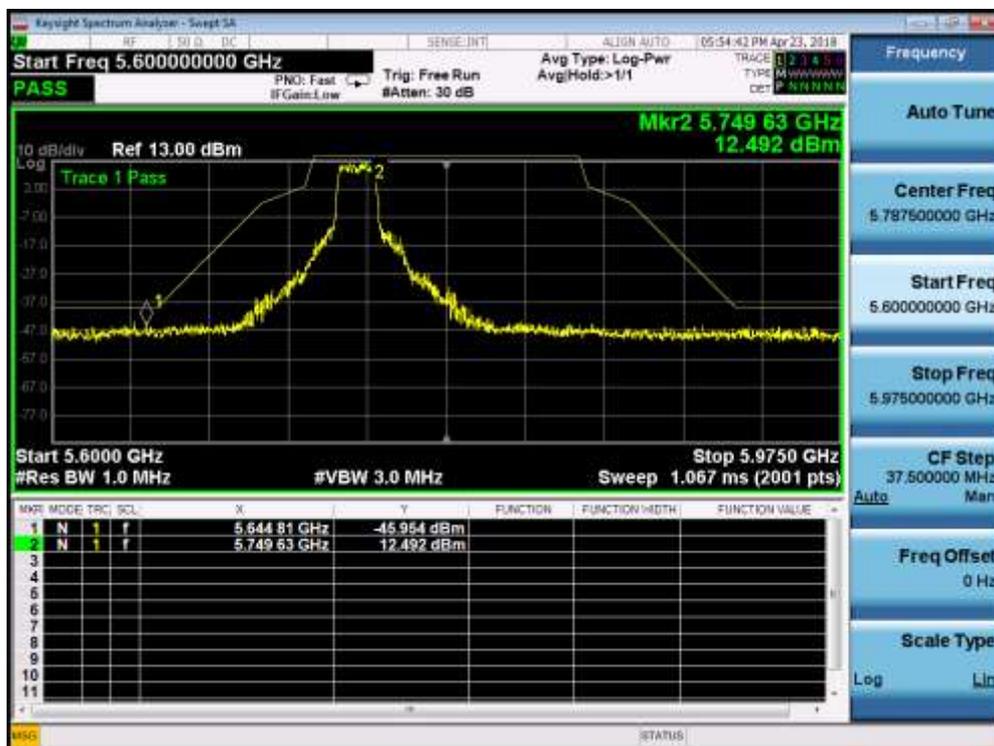
5825MHz by 802.11a:



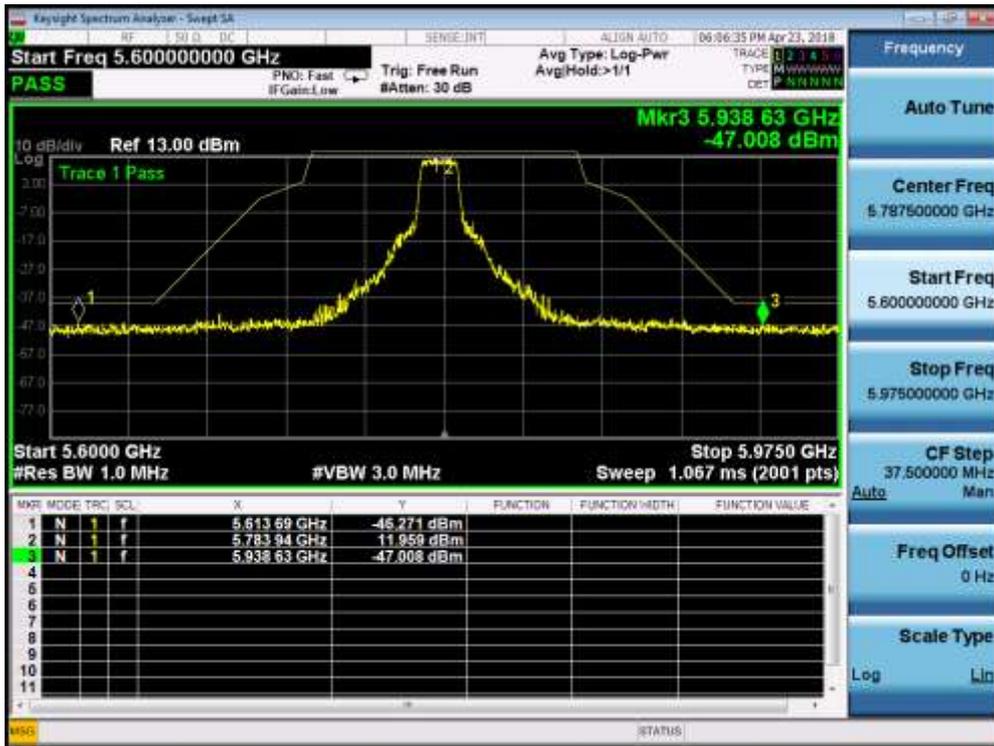
5180MHz by 802.11n(20MHz):



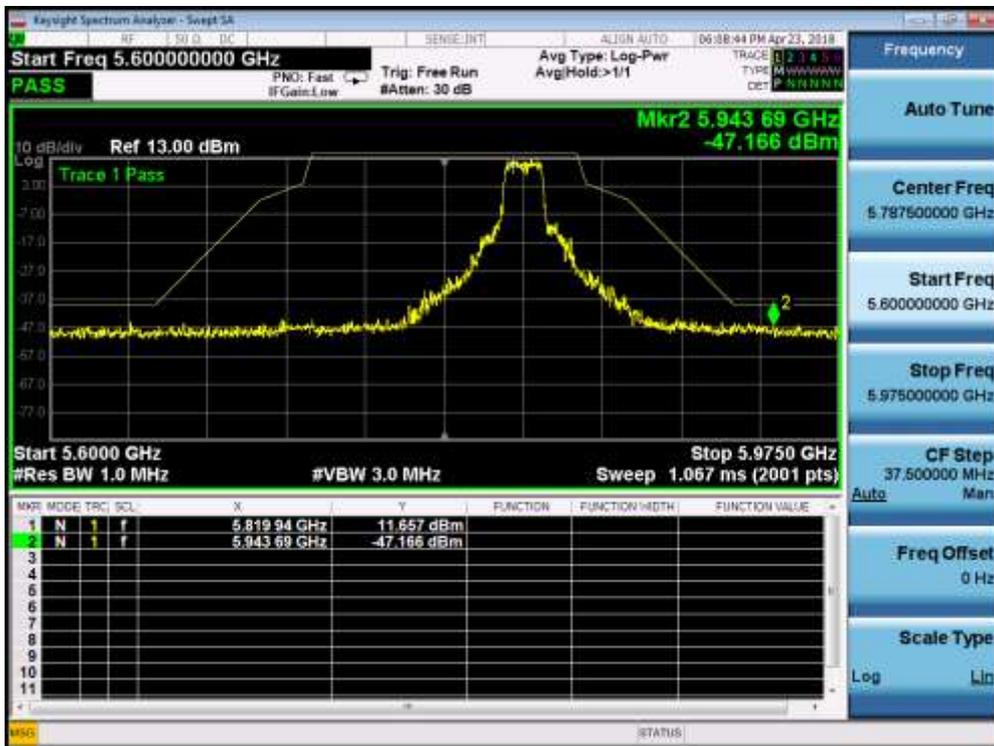
5745MHz by 802.11n(20MHz):



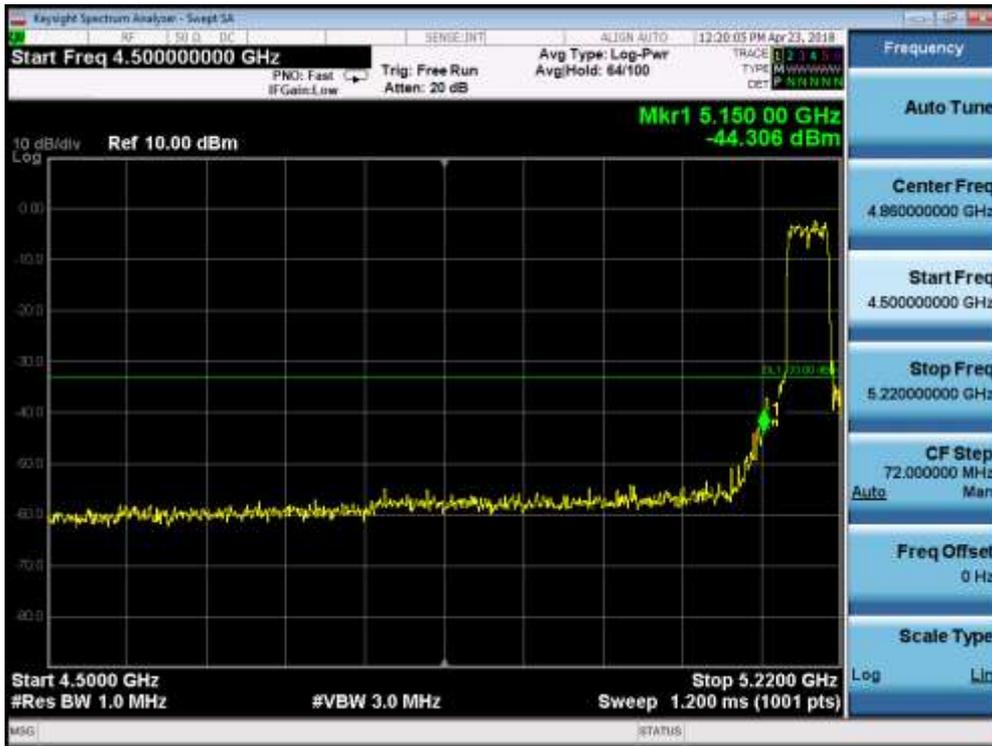
5785MHz by 802.11n(20MHz):



5825MHz by 802.11n(20MHz):



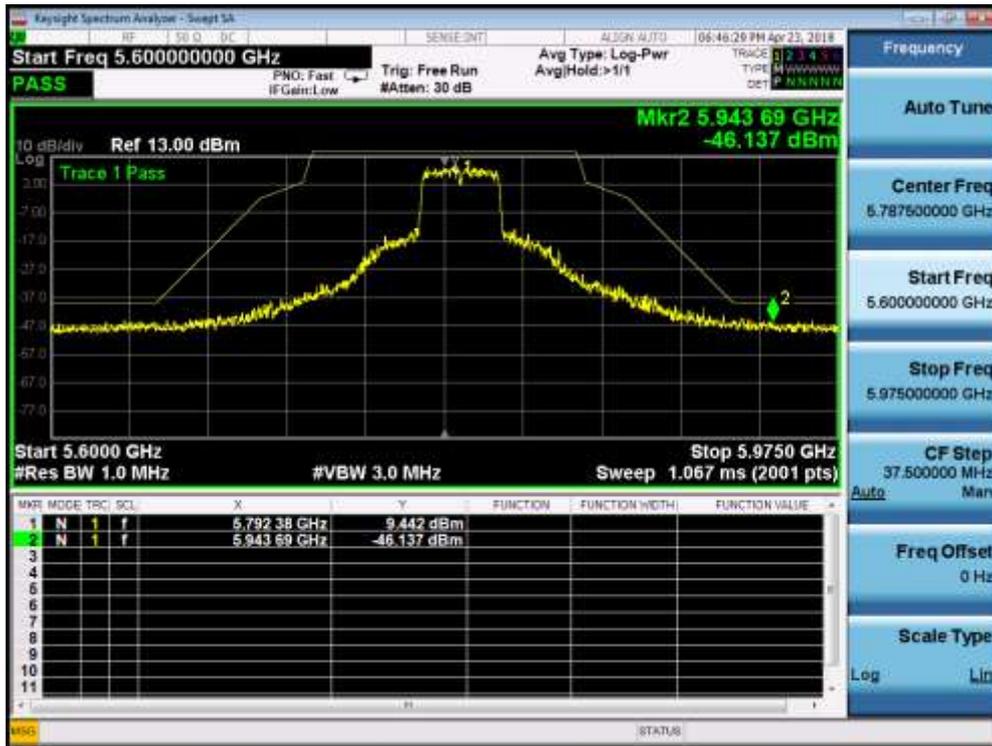
5190MHz by 802.11n(40MHz):



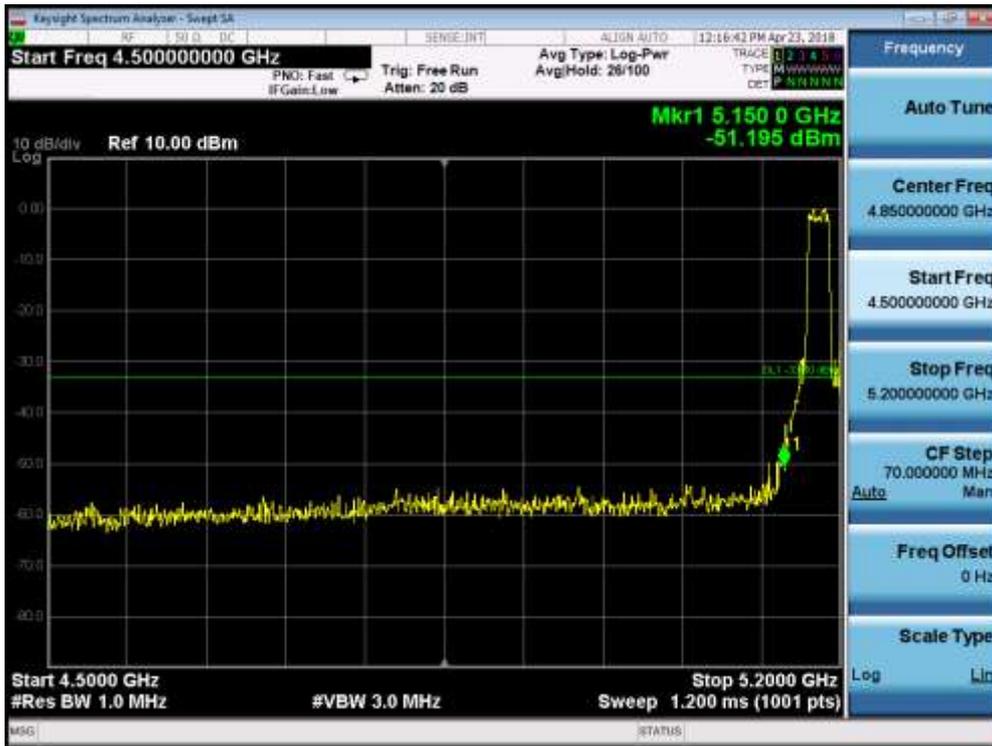
5755MHz by 802.11n(40MHz):



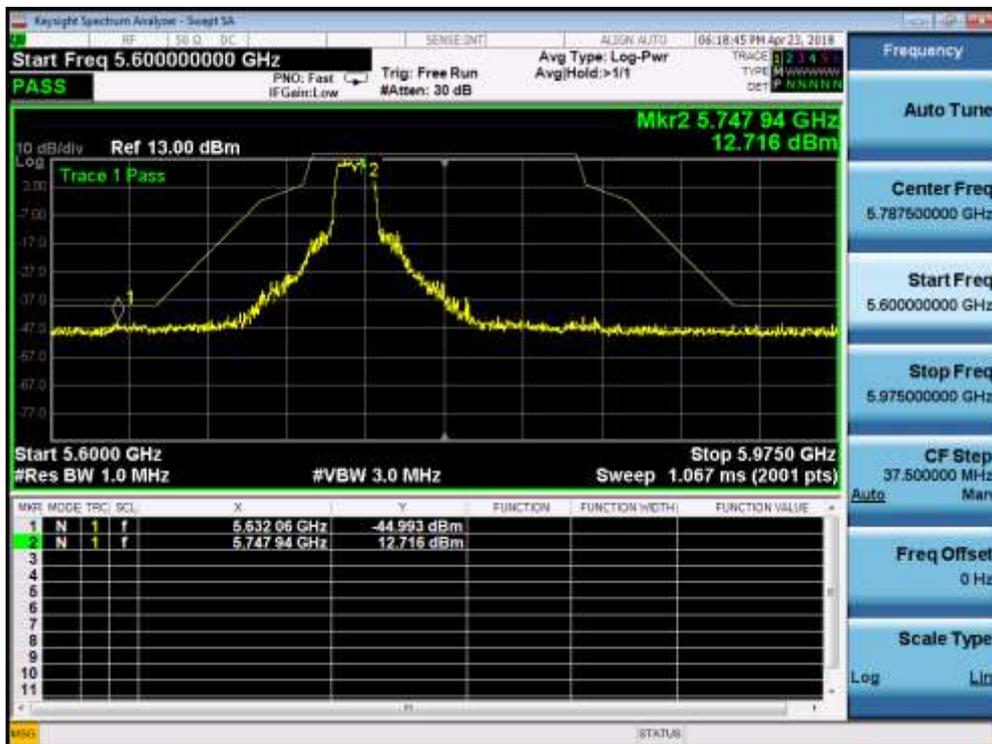
5795MHz by 802.11n(40MHz):



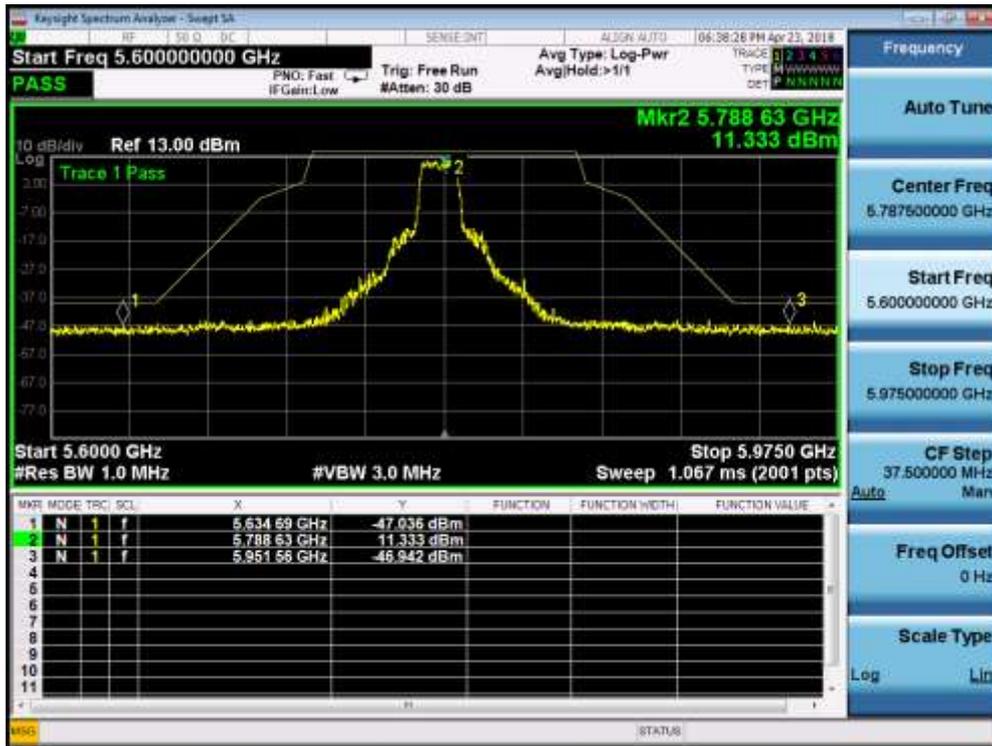
5180MHz by 802.11ac(20MHz):



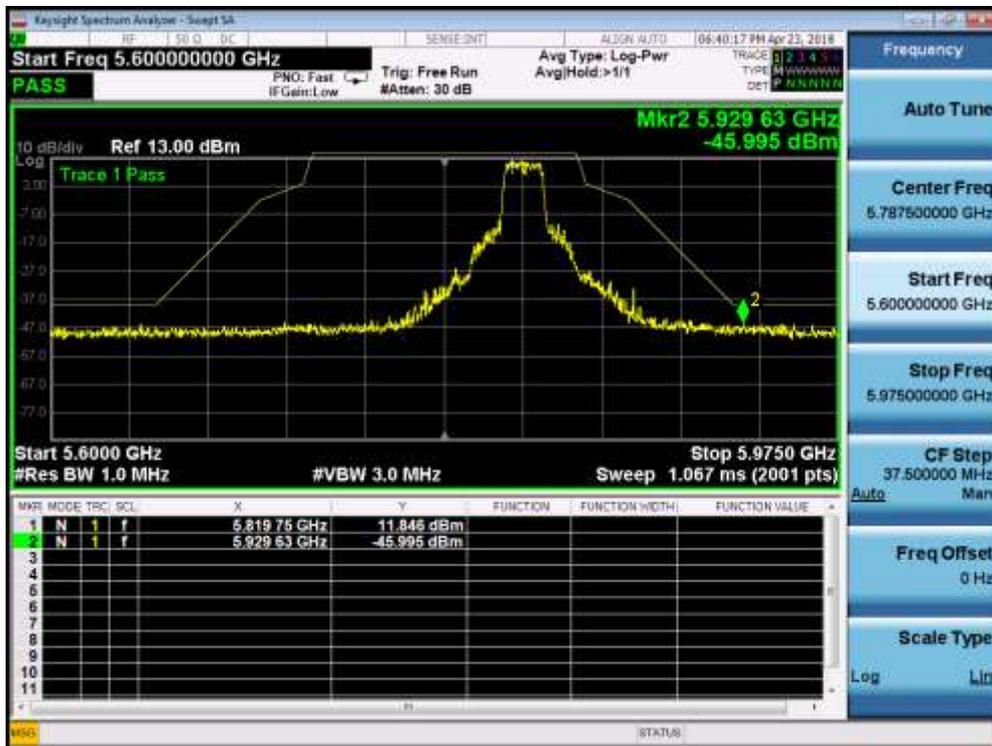
5745MHz by 802.11ac(20MHz):



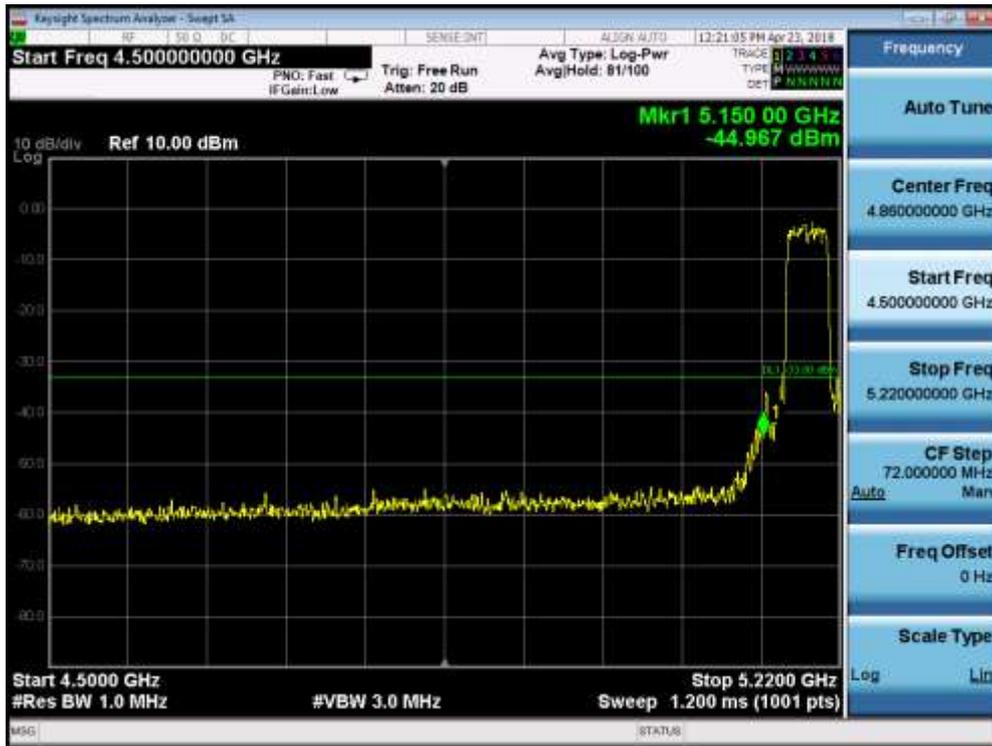
5785MHz by 802.11ac(20MHz):



5825MHz by 802.11ac(20MHz):



5190MHz by 802.11ac(40MHz):



5755MHz by 802.11ac(40MHz):



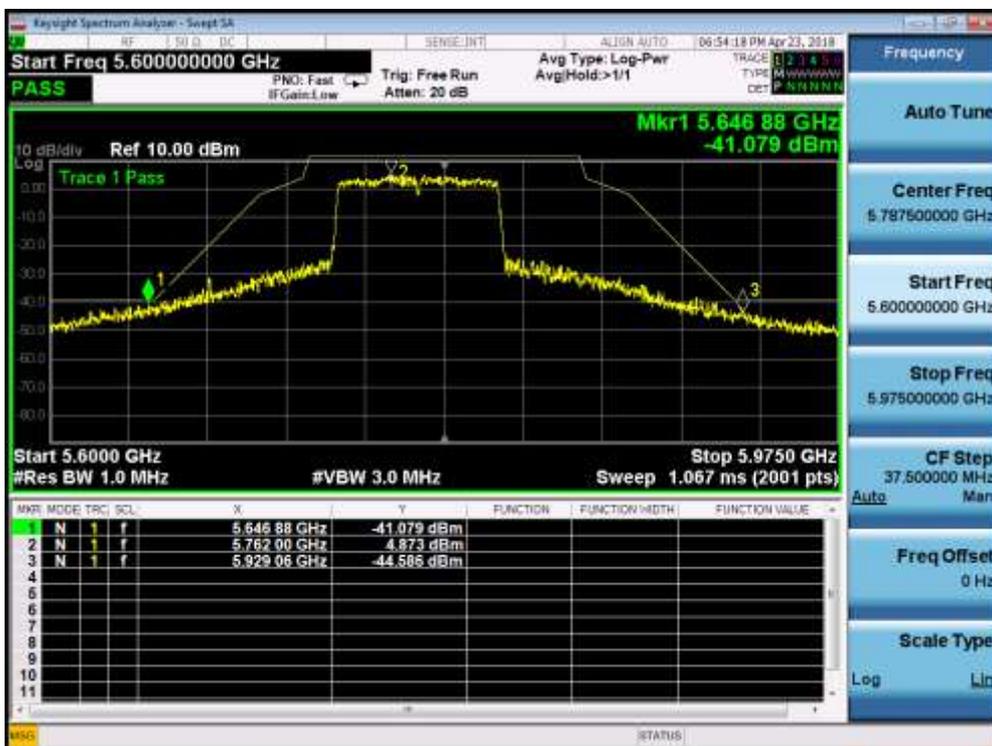
5795MHz by 802.11ac(40MHz):



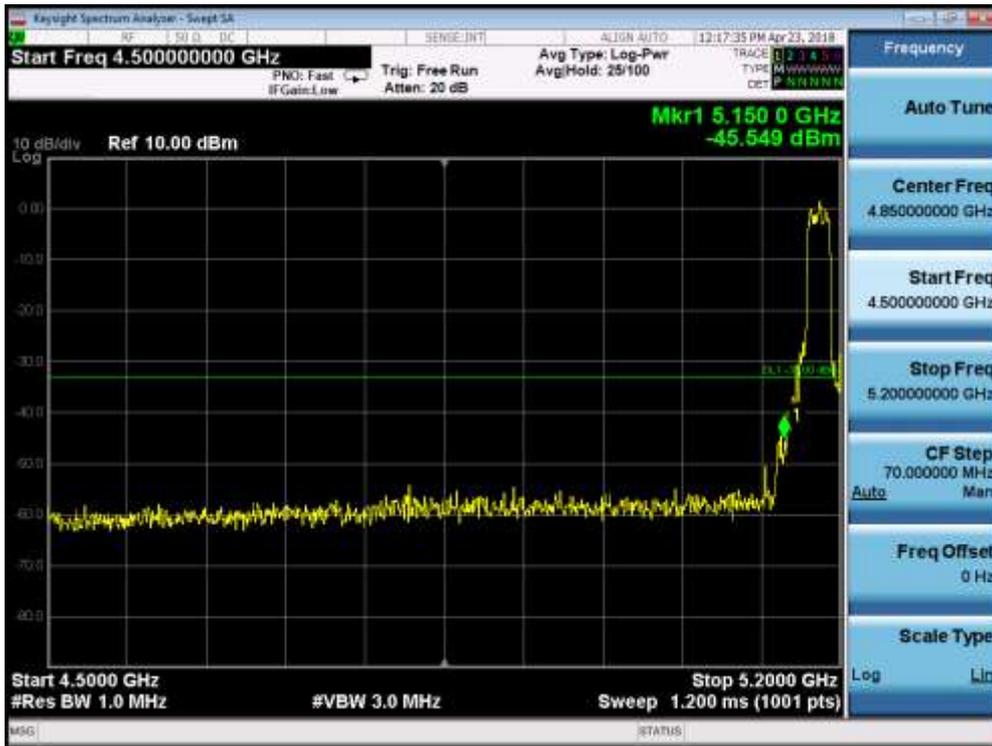
5210MHz by 802.11ac(80MHz):



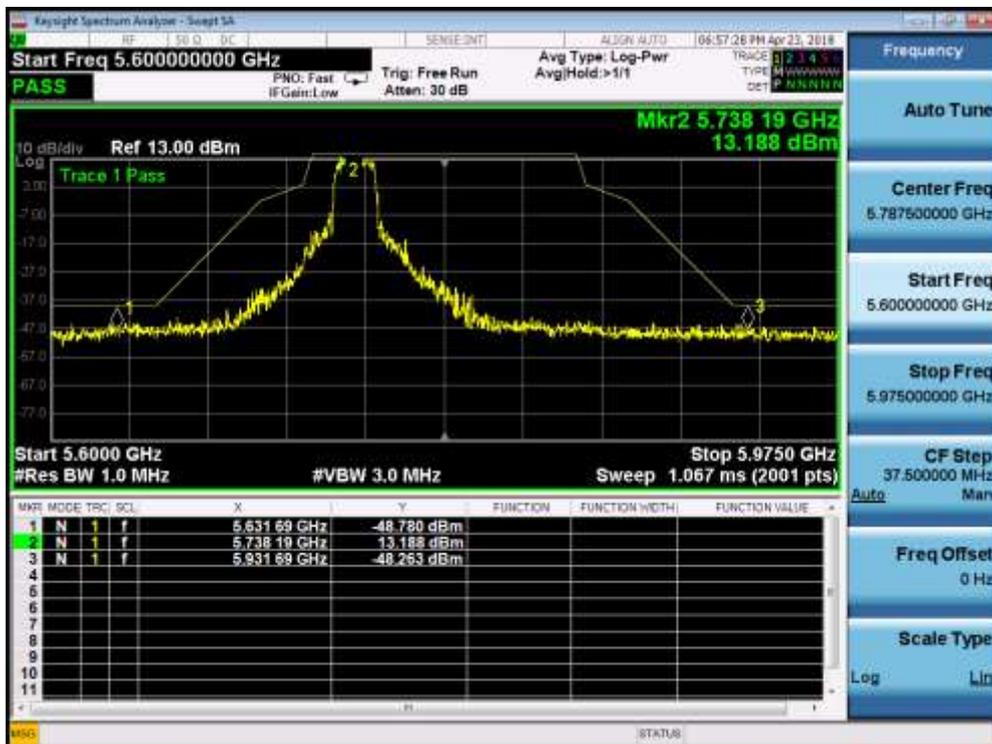
5775MHz by 802.11ac(80MHz):



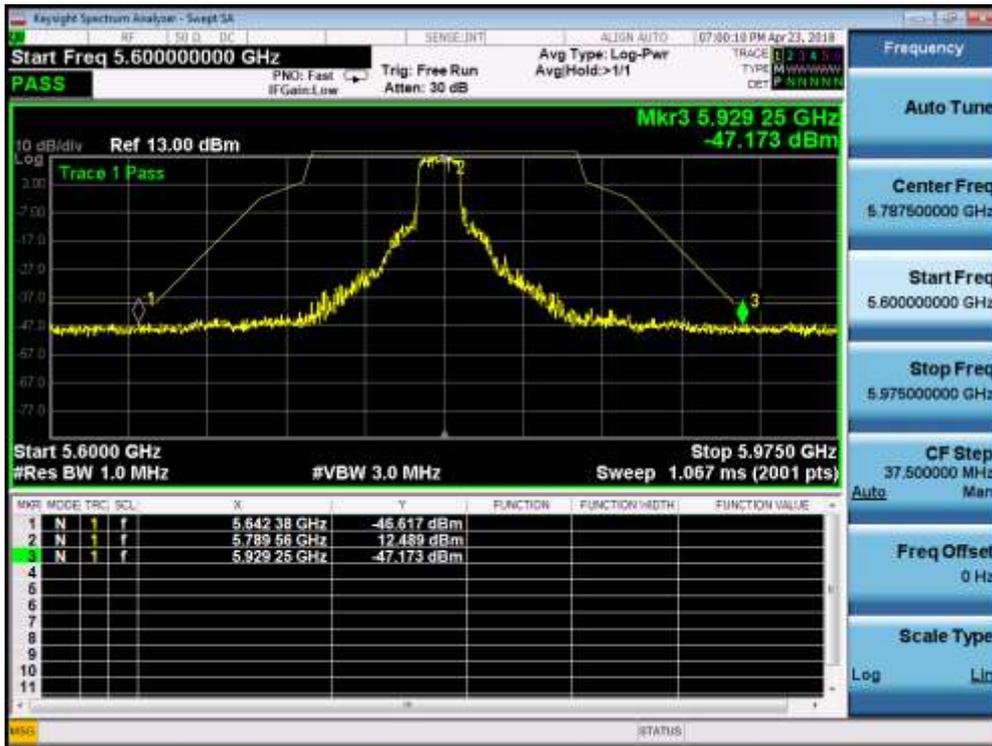
5180MHz by 802.11ax(20MHz):



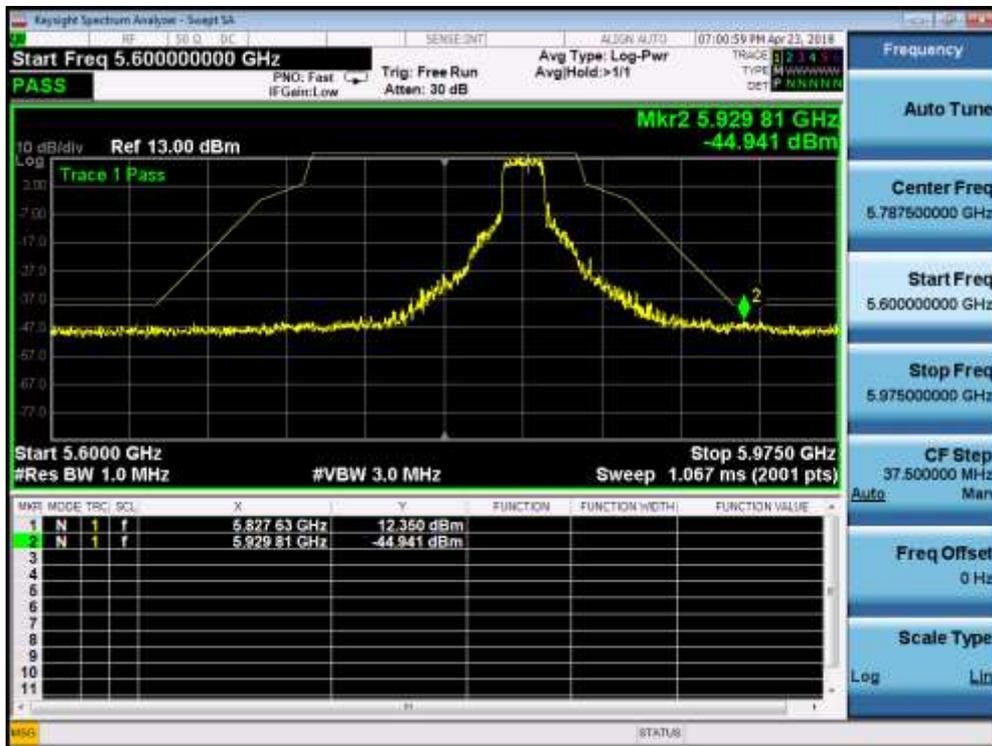
5745MHz by 802.11ax(20MHz):



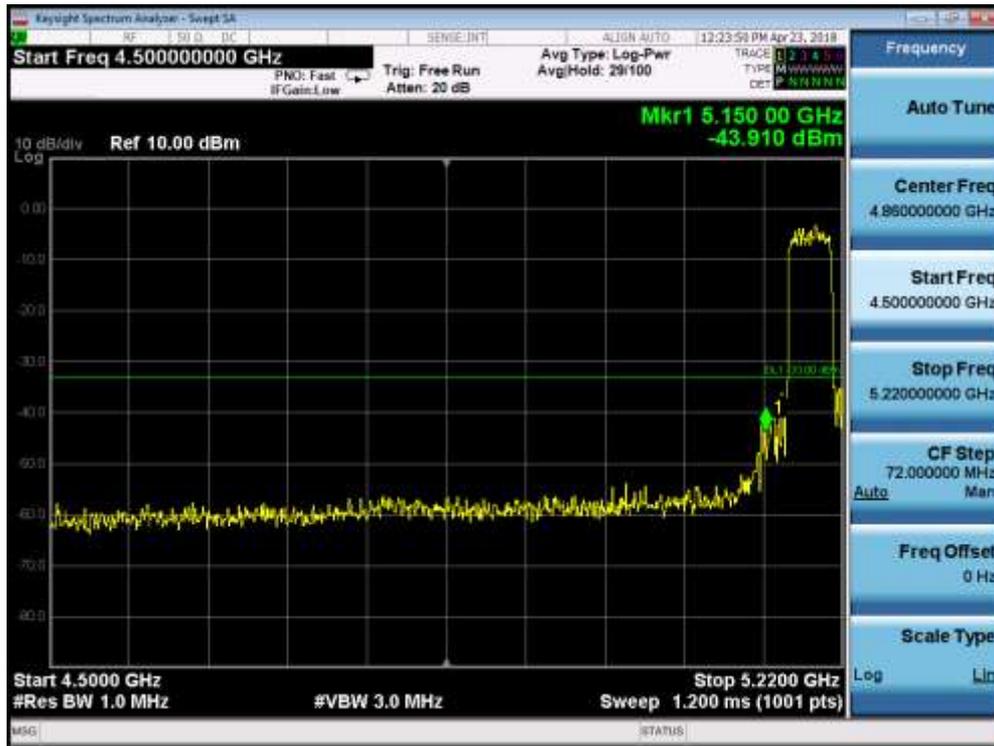
5785MHz by 802.11ax(20MHz):



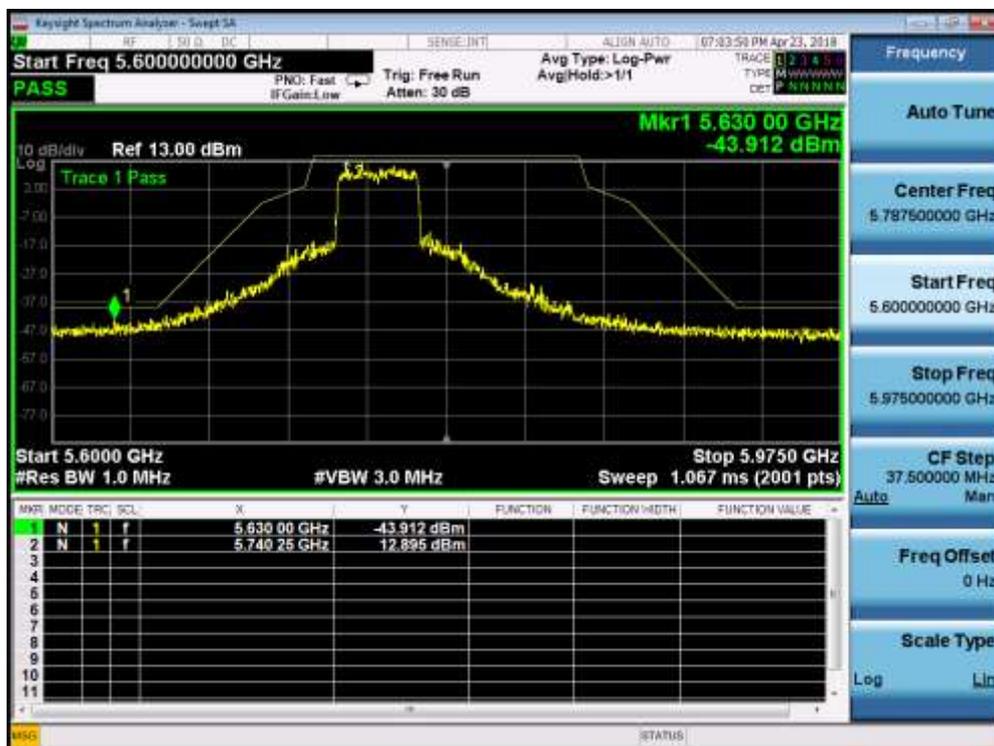
5825MHz by 802.11ax(20MHz):



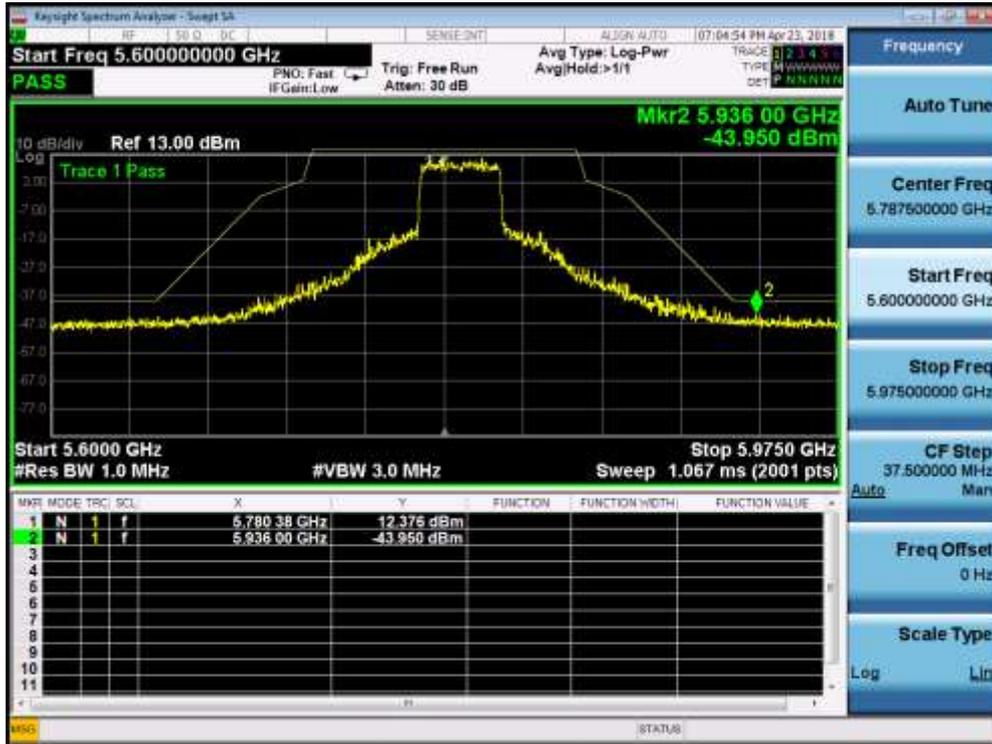
5190MHz by 802.11ax(40MHz):



5755MHz by 802.11ax(40MHz):



5795MHz by 802.11ax(40MHz):



5210MHz by 802.11ax(80MHz):



5775MHz by 802.11ax(80MHz):



**AV-Ant 1+2+3+4 with CDD:**

**Band I AV Limit=54 dBuV/m-95.2-10lg4 (4tx) -12 (Directional Gain) =-59.2dbm**

**5180MHz by 802.11a:**



**5180MHz by 802.11n(20MHz):**



5190MHz by 802.11n(40MHz):



5180MHz by 802.11ac(20MHz):



5190MHz by 802.11ac(40MHz):



5210MHz by 802.11ac(80MHz):



5180MHz by 802.11ax(20MHz):



5190MHz by 802.11ax(40MHz):



5210MHz by 802.11ax(80MHz):



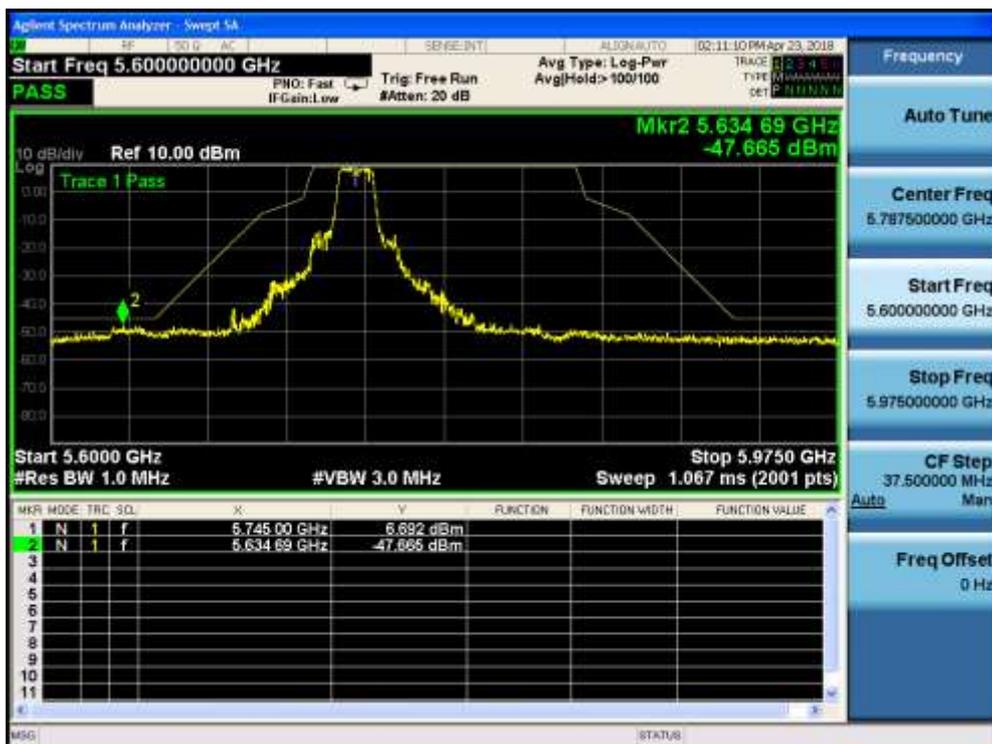
**PK-Ant 1+2+3+4 with CDD:**

**Band I PK Limit=74 dBuV/m-95.2-10lg4 (4tx) -12 (Directional Gain) =-39.2dbm**

**5180MHz by 802.11a:**



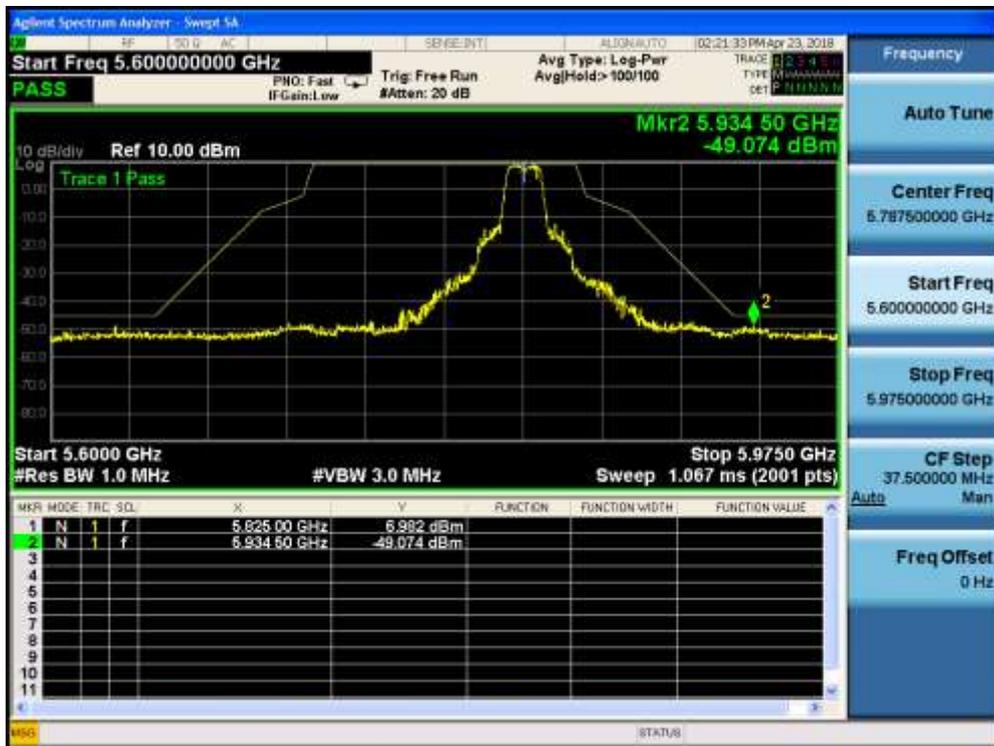
**5745MHz by 802.11a:**



5785MHz by 802.11a:



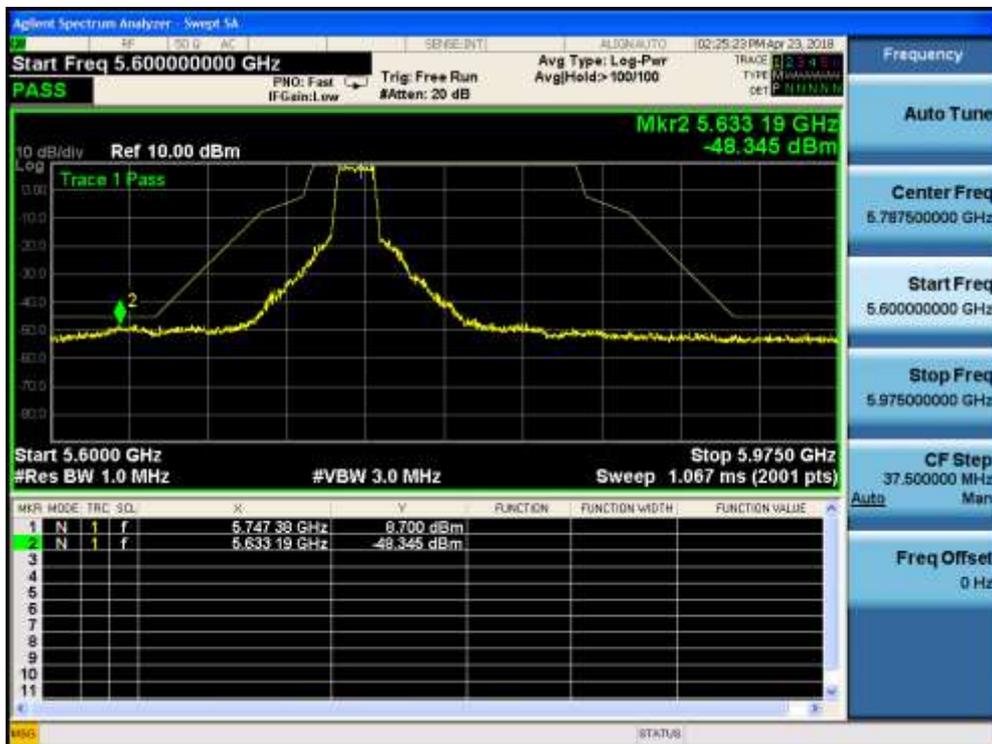
5825MHz by 802.11a:



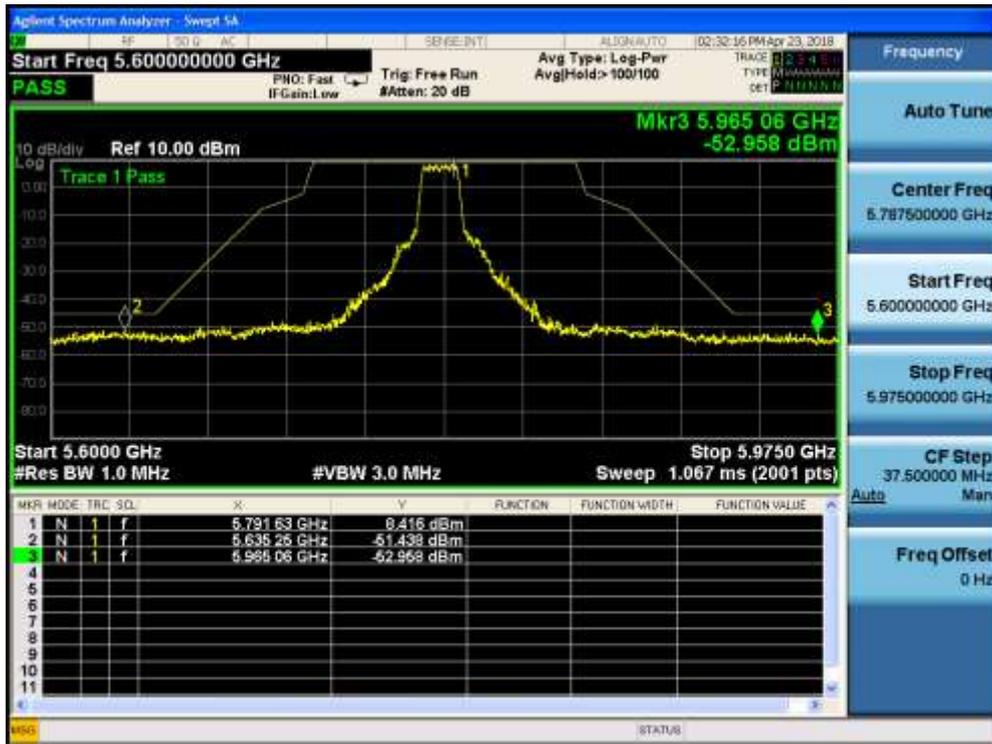
5180MHz by 802.11n(20MHz):



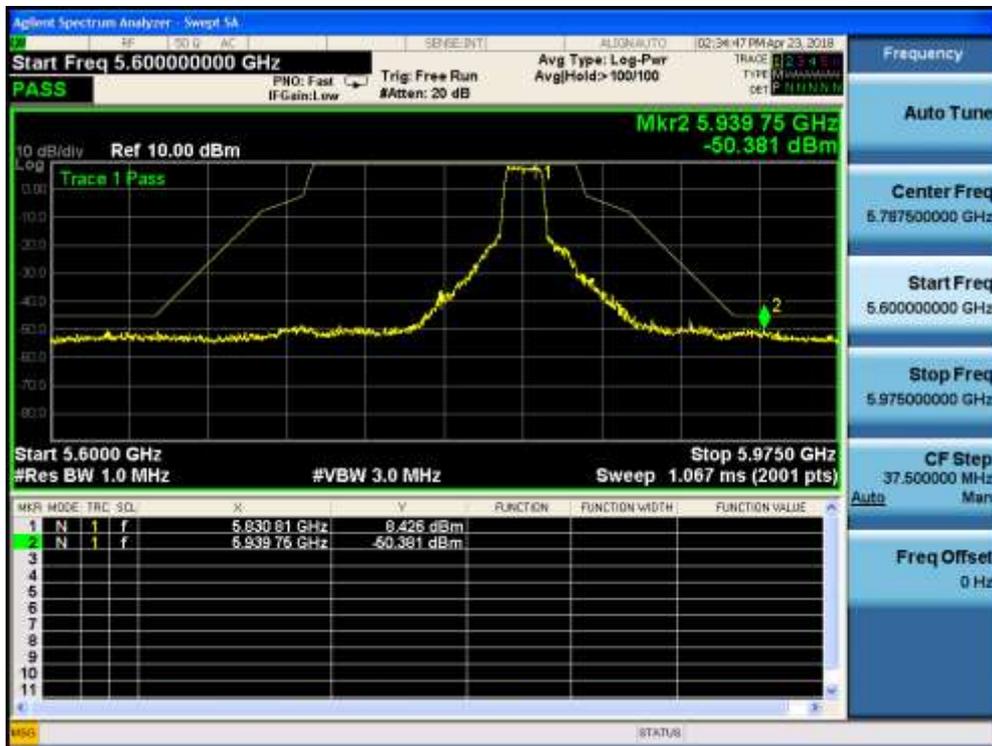
5745MHz by 802.11n(20MHz):



5785MHz by 802.11n(20MHz):



5825MHz by 802.11n(20MHz):



5190MHz by 802.11n(40MHz):



5755MHz by 802.11n(40MHz):



5795MHz by 802.11n(40MHz):



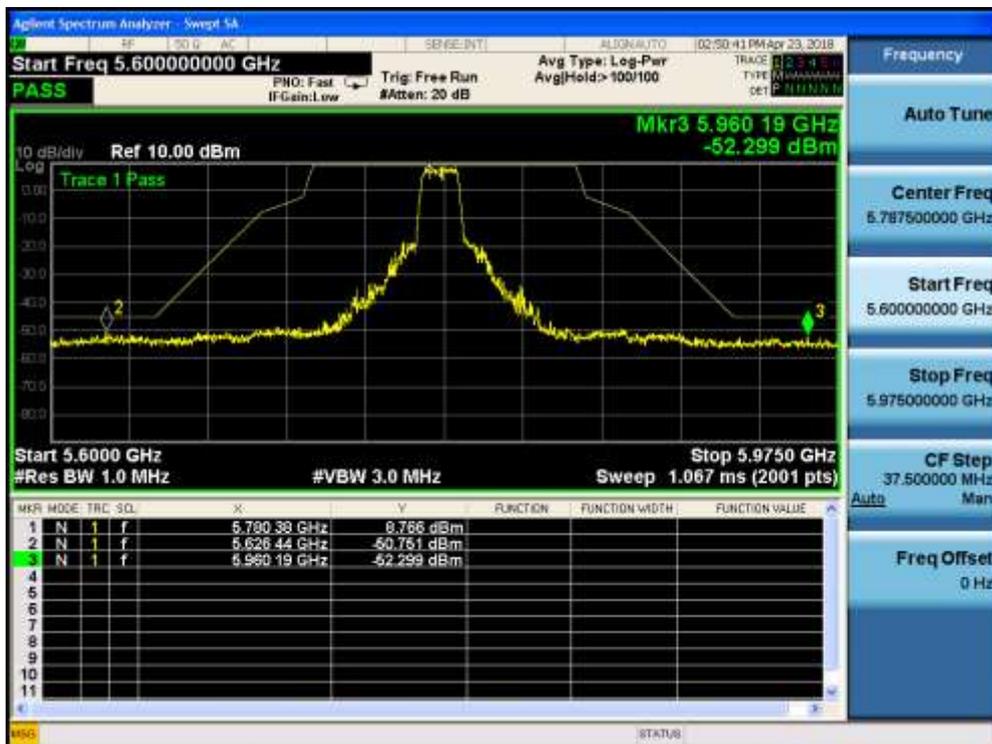
5180MHz by 802.11ac(20MHz):



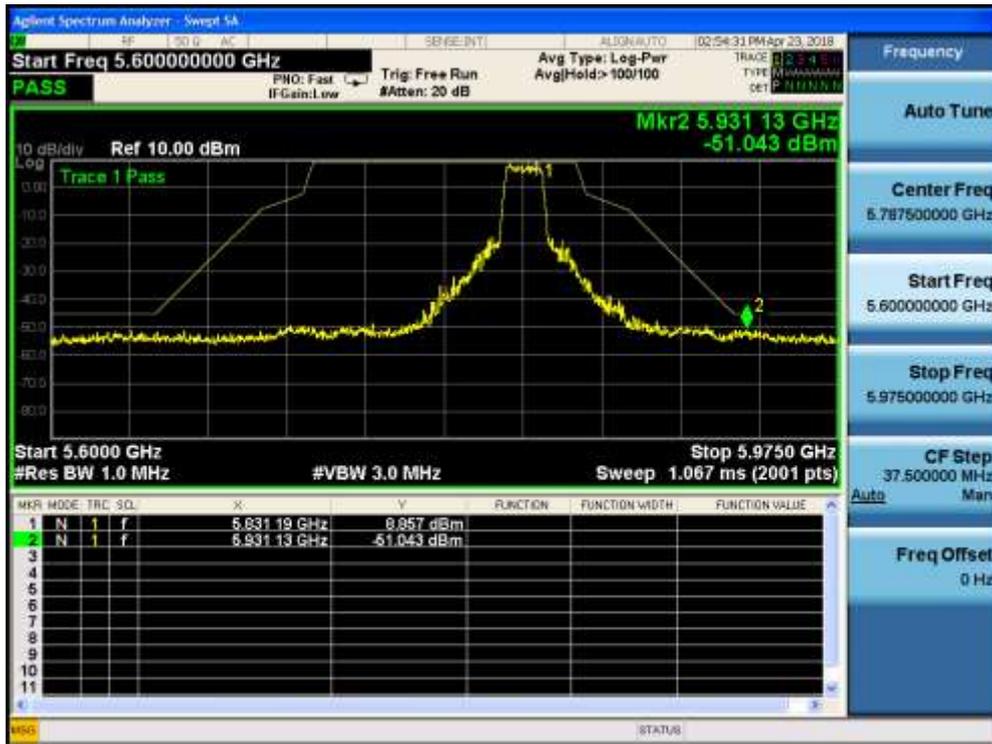
5745MHz by 802.11ac(20MHz):



5785MHz by 802.11ac(20MHz):



5825MHz by 802.11ac(20MHz):



5190MHz by 802.11ac(40MHz):



5755MHz by 802.11ac(40MHz):



5795MHz by 802.11ac(40MHz):



5210MHz by 802.11ac(80MHz):



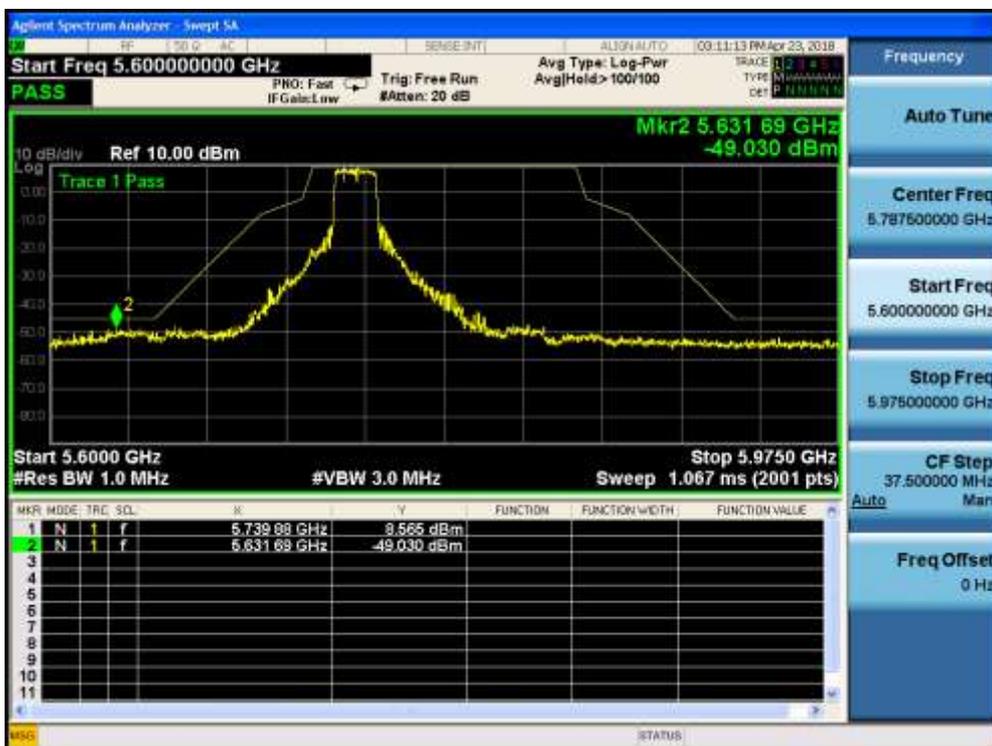
5775MHz by 802.11ac(80MHz):



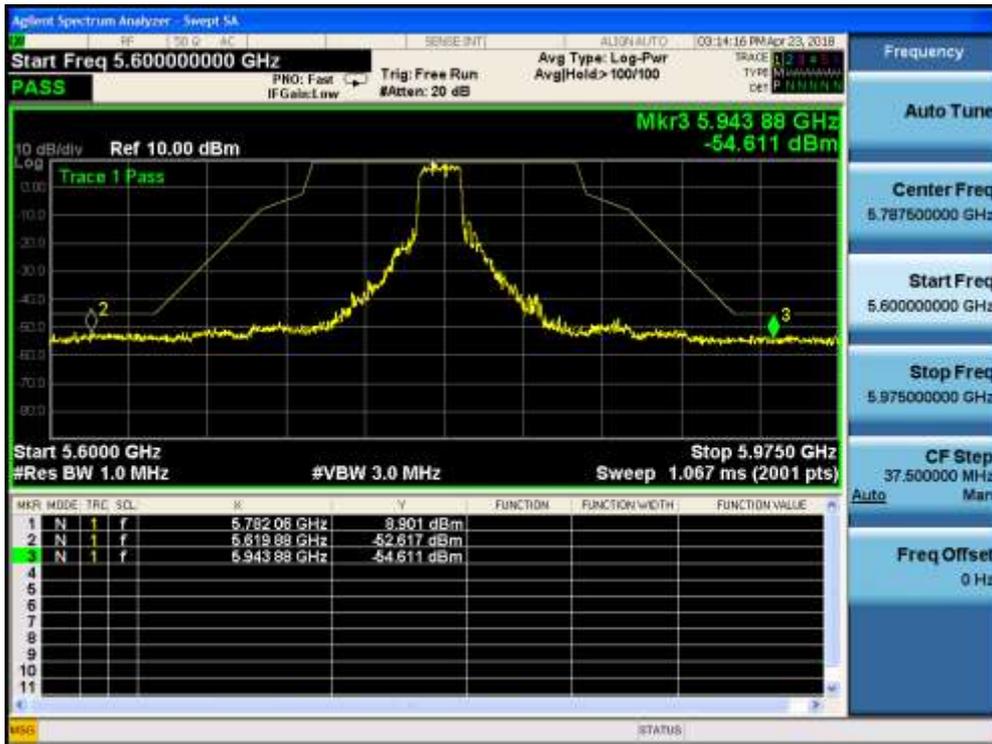
5180MHz by 802.11ax(20MHz):



5745MHz by 802.11ax(20MHz):



5785MHz by 802.11ax(20MHz):



5825MHz by 802.11ax(20MHz):



5190MHz by 802.11ax(40MHz):



5755MHz by 802.11ax(40MHz):

