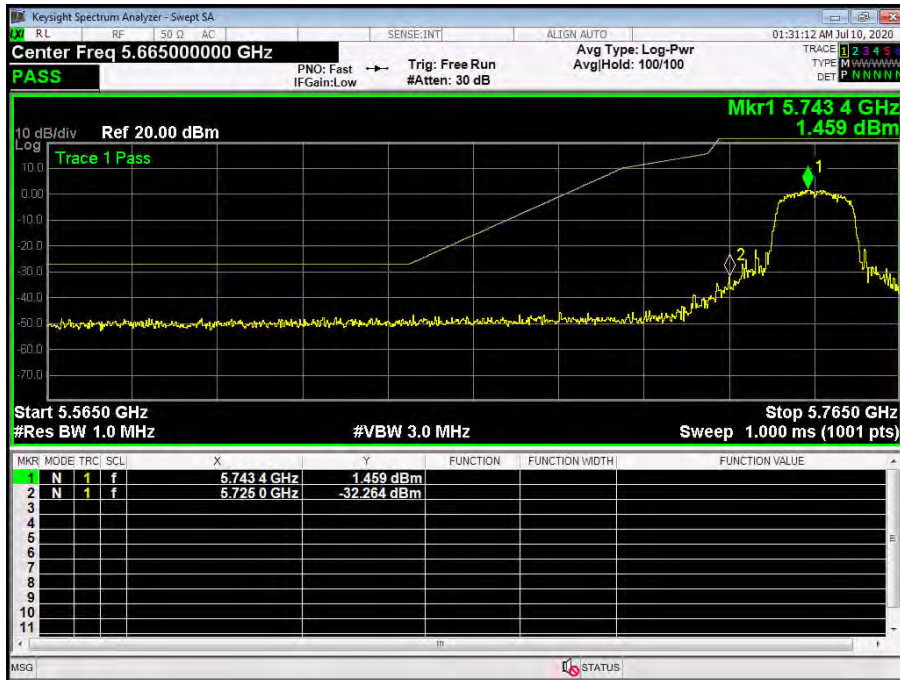
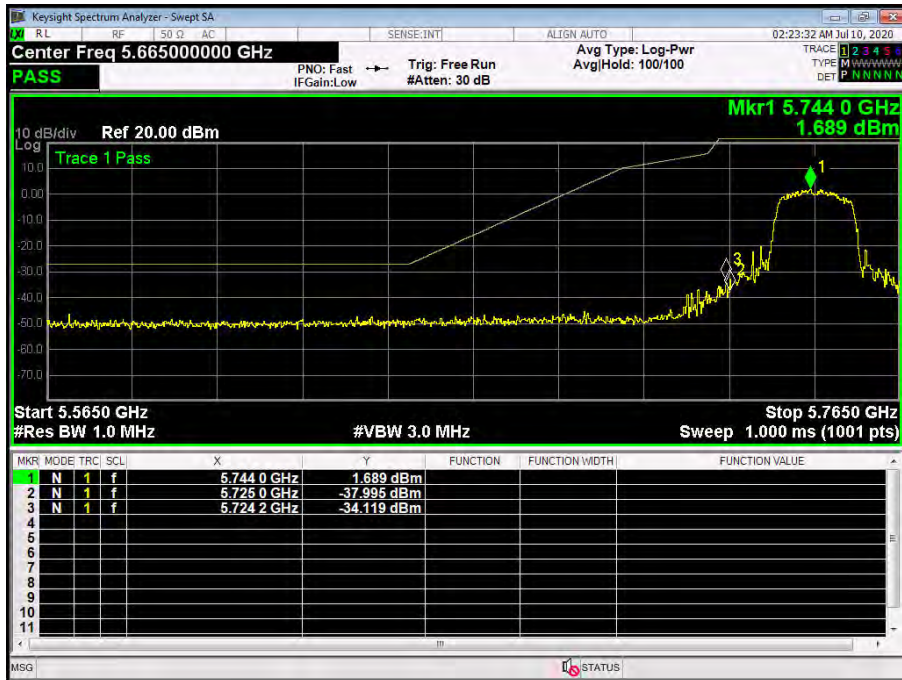


Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 3.8V		
Test Mode:	TX 802.11a Mode 5745MHz/5825MHz (U-NII-3)		
Remark:	The EUT is programmed in continuously transmitting mode		



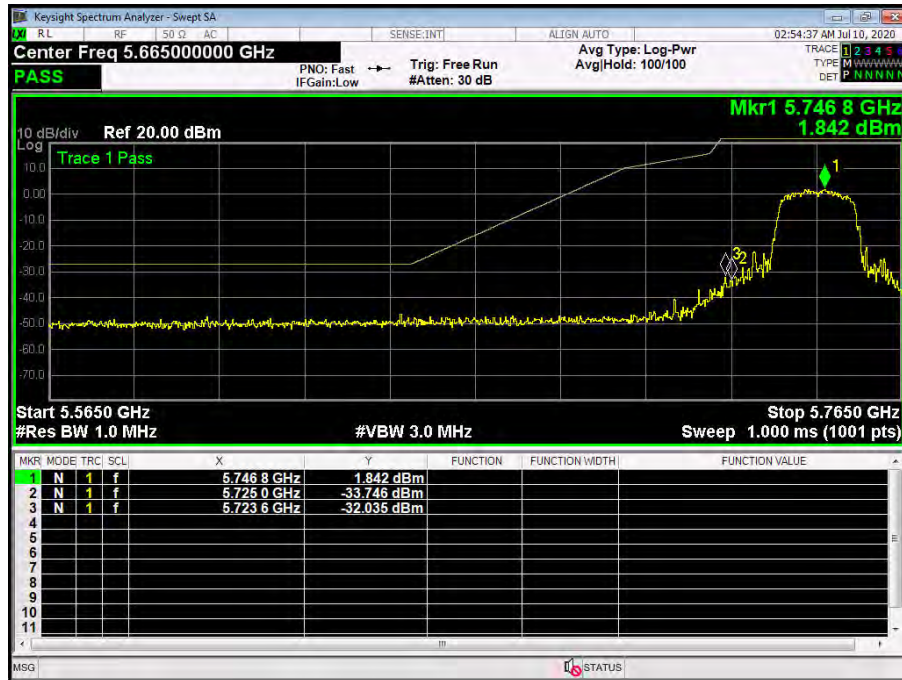


Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 3.8V		
Test Mode:	TX 802.11n(HT20) Mode 5745MHz/5825MHz (U-NII-3)		
Remark:	The EUT is programmed in continuously transmitting mode		





<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11ac(VHT20) Mode 5745MHz/5825MHz (U-NII-3)		
<b>Remark:</b>	The EUT is programmed in continuously transmitting mode		





Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 3.8V		
Test Mode:	TX 802.11 n(HT40) Mode 5755MHz/5795MHz (U-NII-3)		
Remark:	The EUT is programmed in continuously transmitting mode		





Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 3.8V		
Test Mode:	TX 802.11ac(VHT40) Mode 5755MHz/5795MHz (U-NII-3)		
Remark:	The EUT is programmed in continuously transmitting mode		





Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 3.8V		
Test Mode:	TX 802.11ac(VHT80) Mode 5775MHz (U-NII-3)		
Remark:	The EUT is programmed in continuously transmitting mode		



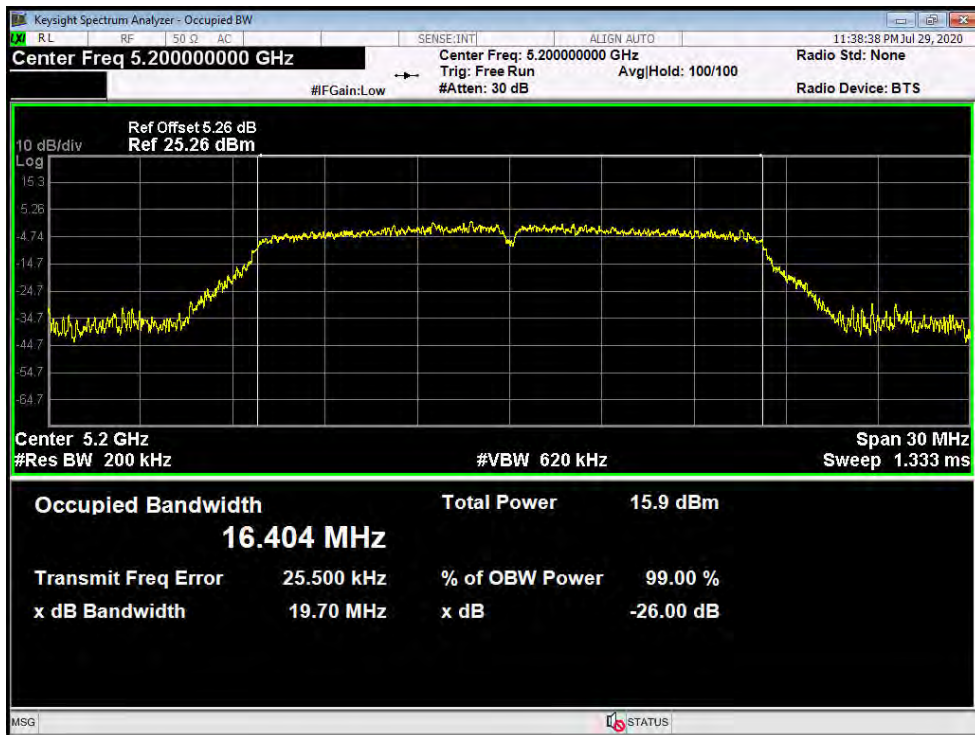
## Attachment D--Bandwidth Test Data

<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11a Mode (U-NII-1)		
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	19.98	16.426
40	5200	19.70	16.404
48	5240	19.68	16.454
<b>802.11a Mode</b>			
<b>5180 MHz</b>			



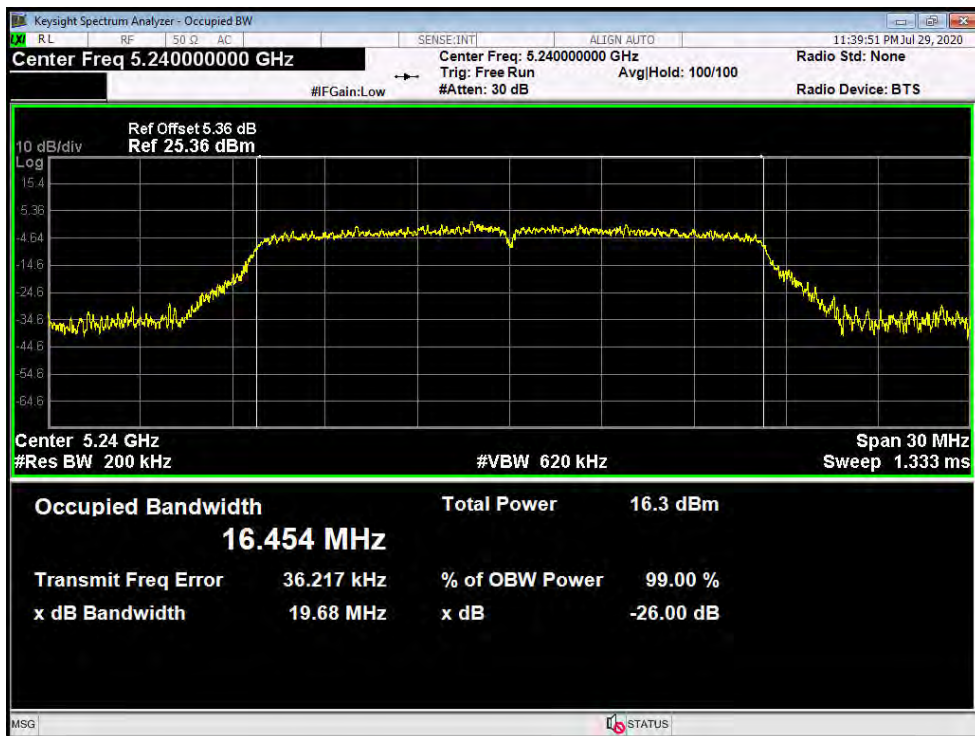
## 802.11a Mode

5200 MHz



## 802.11a Mode

5240 MHz





<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11n(HT20) Mode (U-NII-1)		
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	20.43	17.561
40	5200	19.94	17.592
48	5240	20.43	17.556

**802.11n(HT20) Mode**  
**5180 MHz**

Keysight Spectrum Analyzer - Occupied BW

Center Freq: 5.18000000 GHz  
Center Freq: 5.18000000 GHz  
Trig: Free Run  
Avg/Hold: 100/100  
Radio Std: None  
#FGain: Low  
#Atten: 30 dB  
Radio Device: BTS

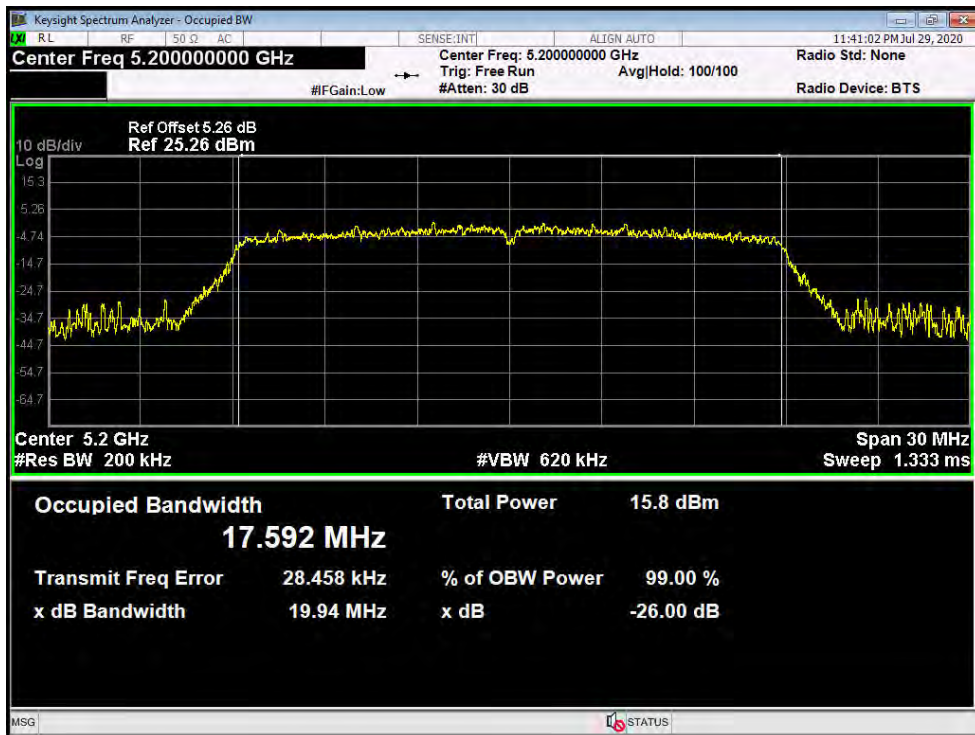
Ref Offset 5.27 dB  
Ref 25.27 dBm

Center 5.18 GHz  
#Res BW 200 kHz  
#VBW 620 kHz  
Span 30 MHz  
Sweep 1.333 ms

<b>Occupied Bandwidth</b>	<b>Total Power</b>	<b>16.1 dBm</b>
<b>17.561 MHz</b>		
<b>Transmit Freq Error</b>	43.279 kHz	% of OBW Power 99.00 %
<b>x dB Bandwidth</b>	20.43 MHz	x dB -26.00 dB

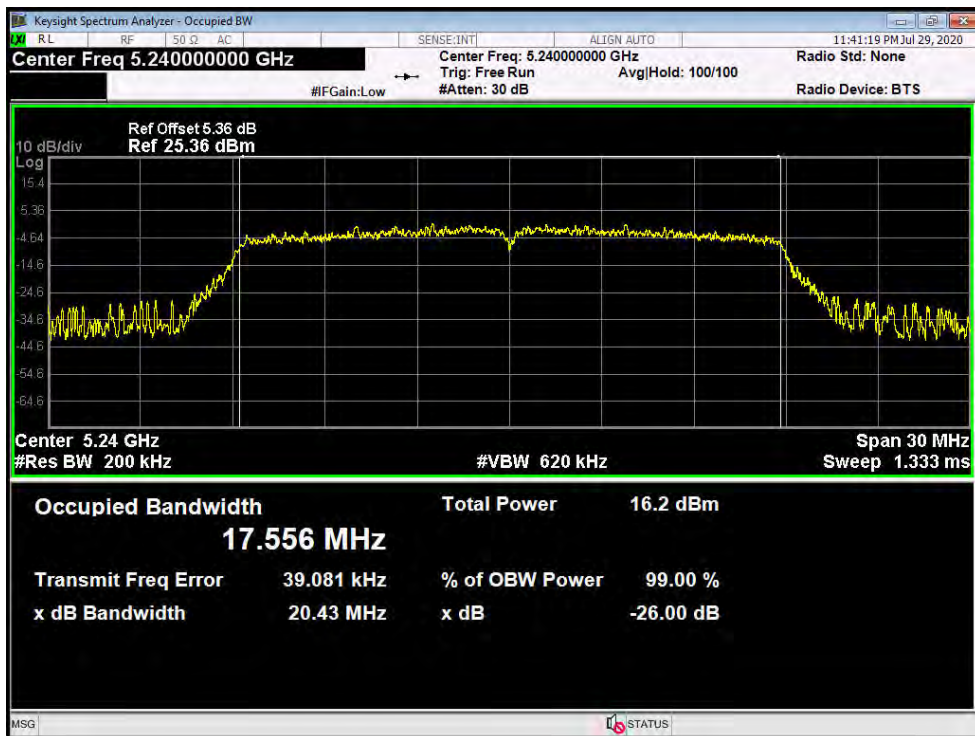
**802.11n(HT20) Mode**

**5200 MHz**



**802.11n(HT20) Mode**

**5240 MHz**

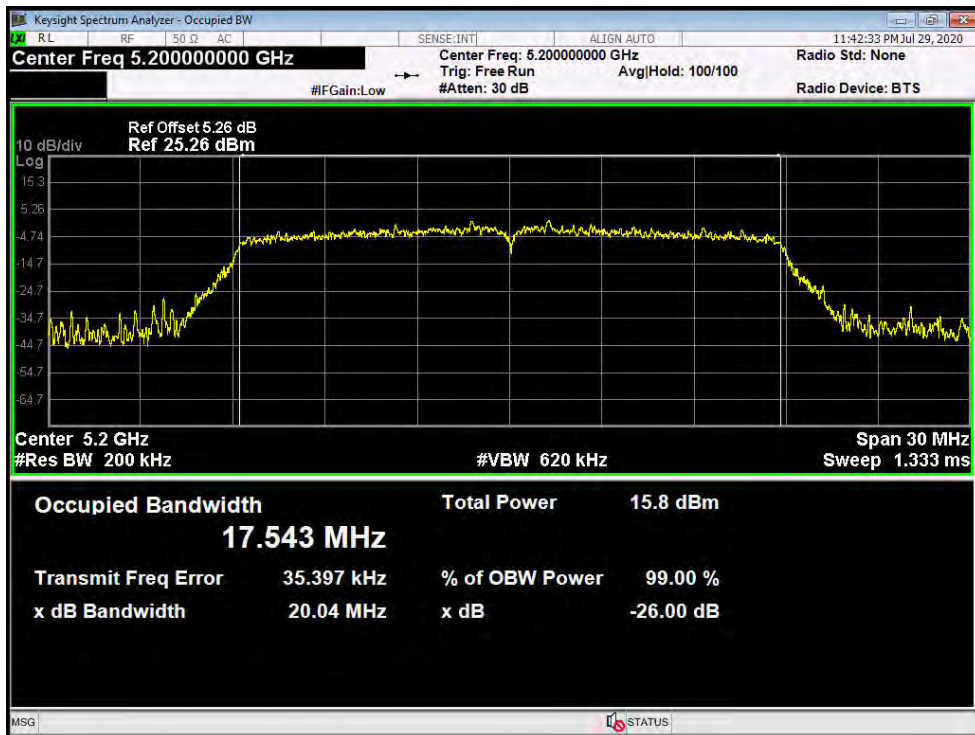




<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11ac(VHT20) Mode (U-NII-1)		
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36	5180	20.49	17.570
40	5200	20.04	17.543
48	5240	20.09	17.559
<b>802.11ac(VHT20) Mode</b>			
<b>5180 MHz</b>			

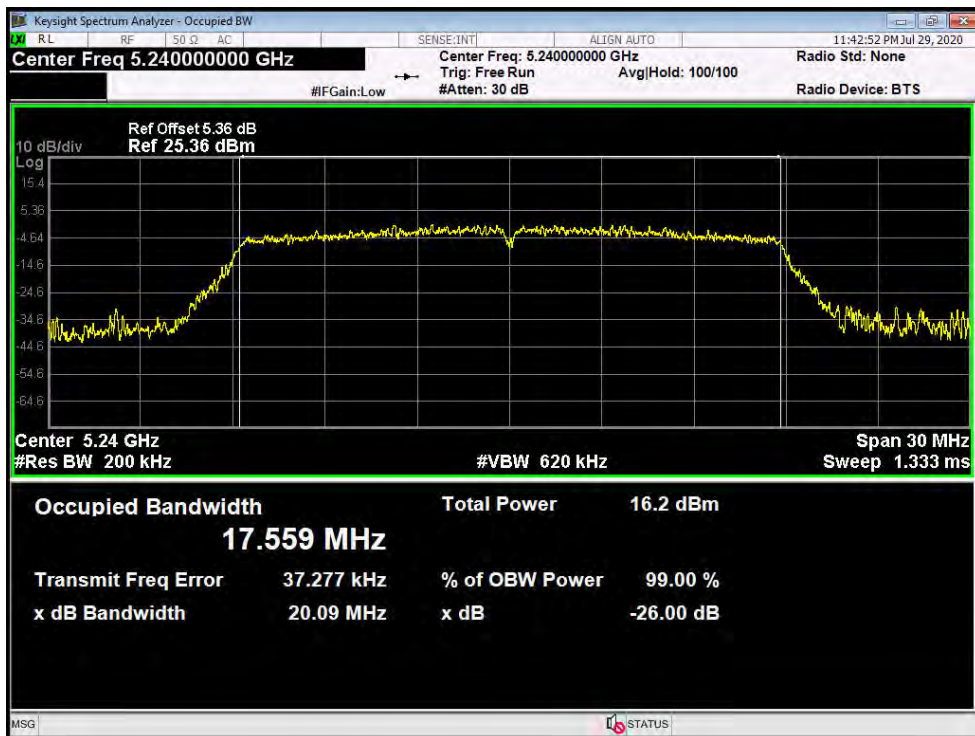
**802.11ac(VHT20) Mode**

**5200 MHz**

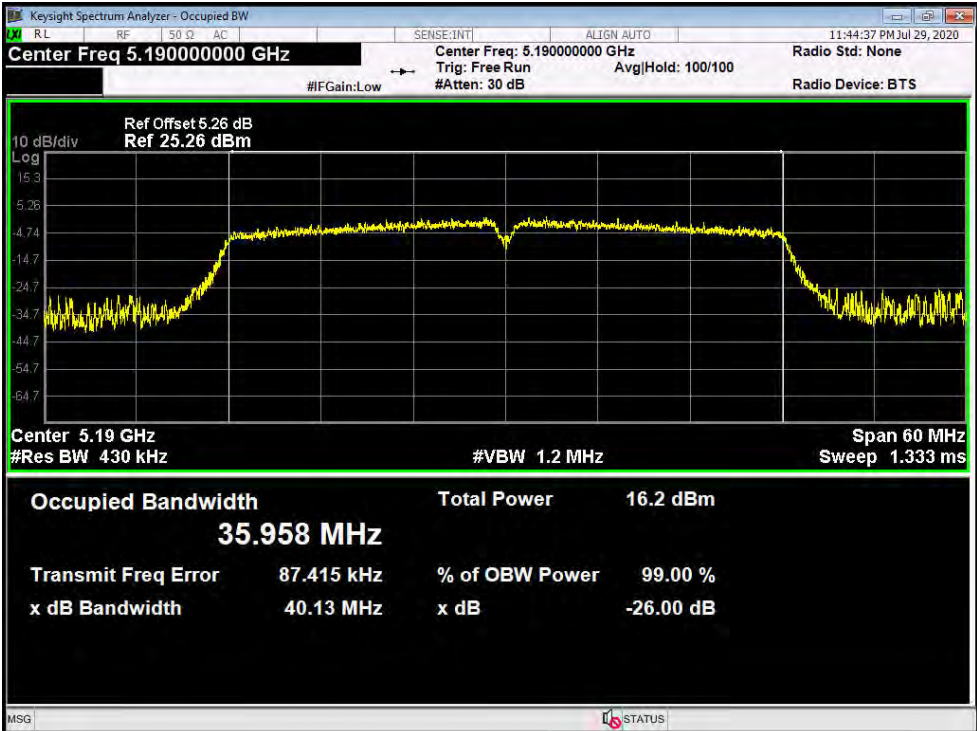


**802.11ac(VHT20) Mode**

**5240 MHz**

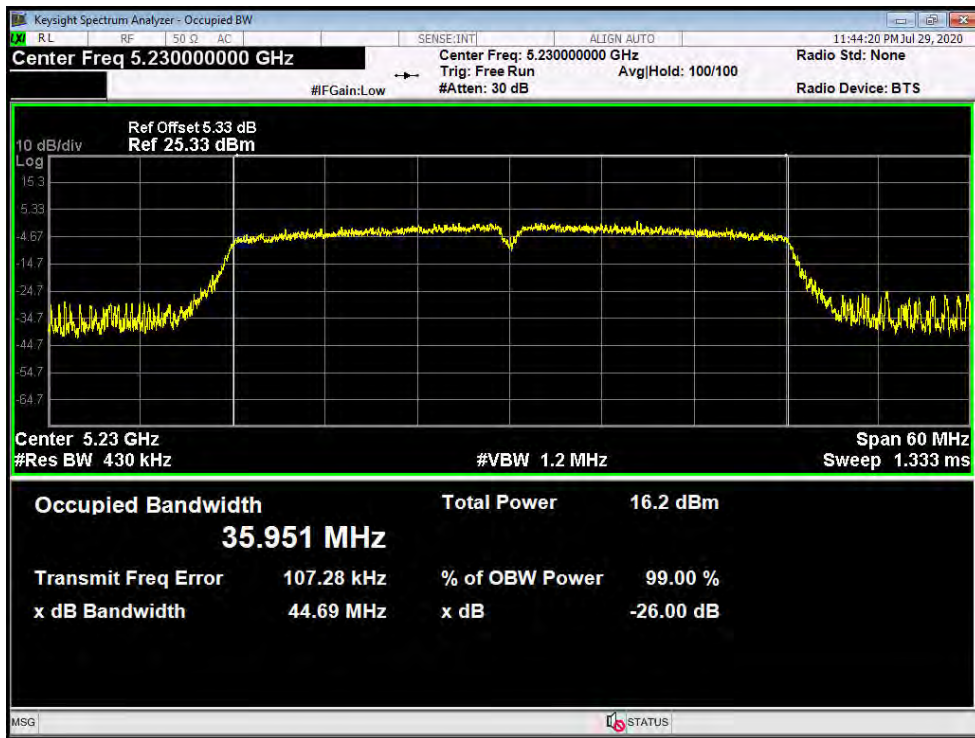




<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11N(HT40) Mode (U-NII-1)		
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
38	5190	40.13	35.958
46	5230	44.69	35.951
<b>802.11N(HT40) Mode</b>			
<b>5190 MHz</b>			
			

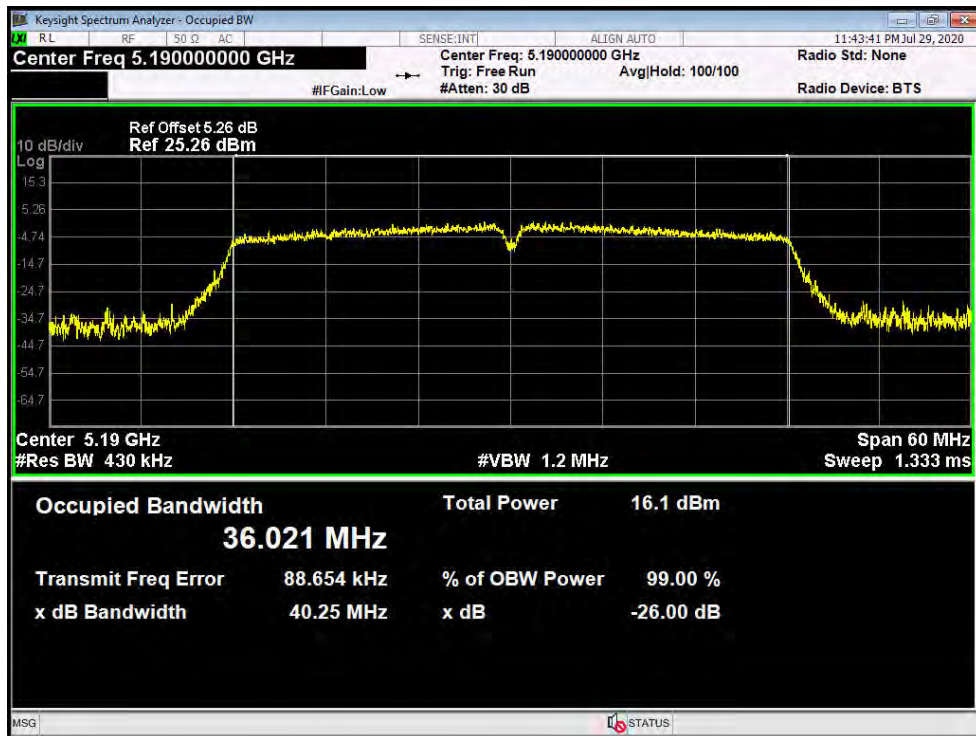
**802.11N(HT40) Mode**

**5230 MHz**



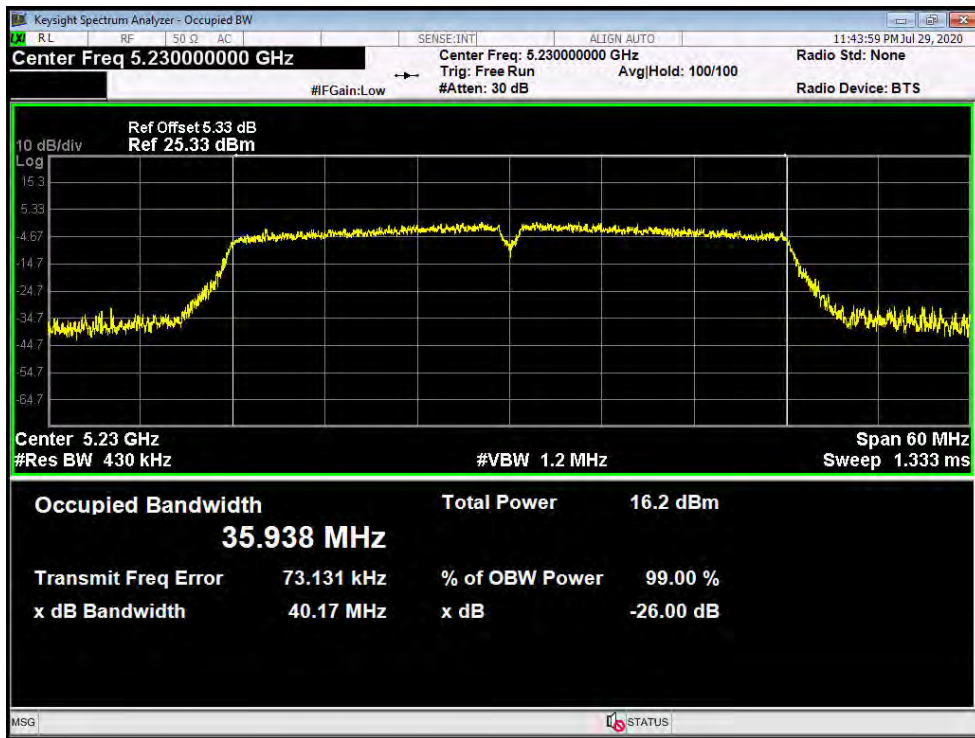


<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11ac(VHT40) Mode (U-NII-1)		
<b>Channel</b>	<b>Frequency (MHz)</b>	<b>26dB Bandwidth (MHz)</b>	<b>99% Bandwidth (MHz)</b>
38	5190	40.25	36.021
46	5230	40.17	35.938

**802.11ac(VHT40) Mode**
**5190 MHz**


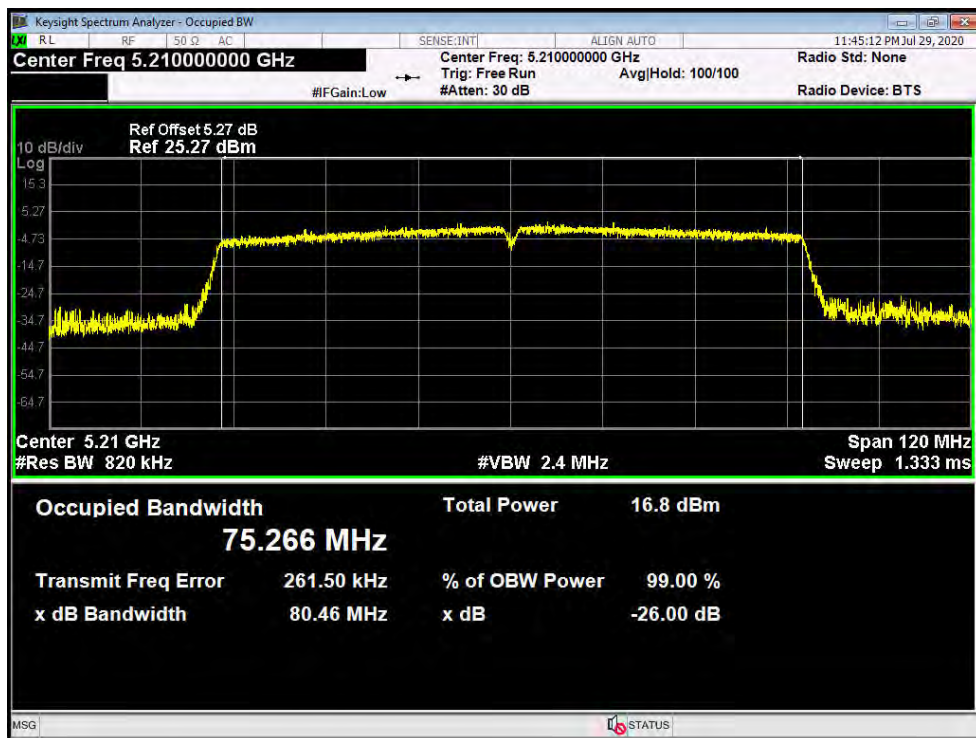
**802.11ac(VHT40) Mode**

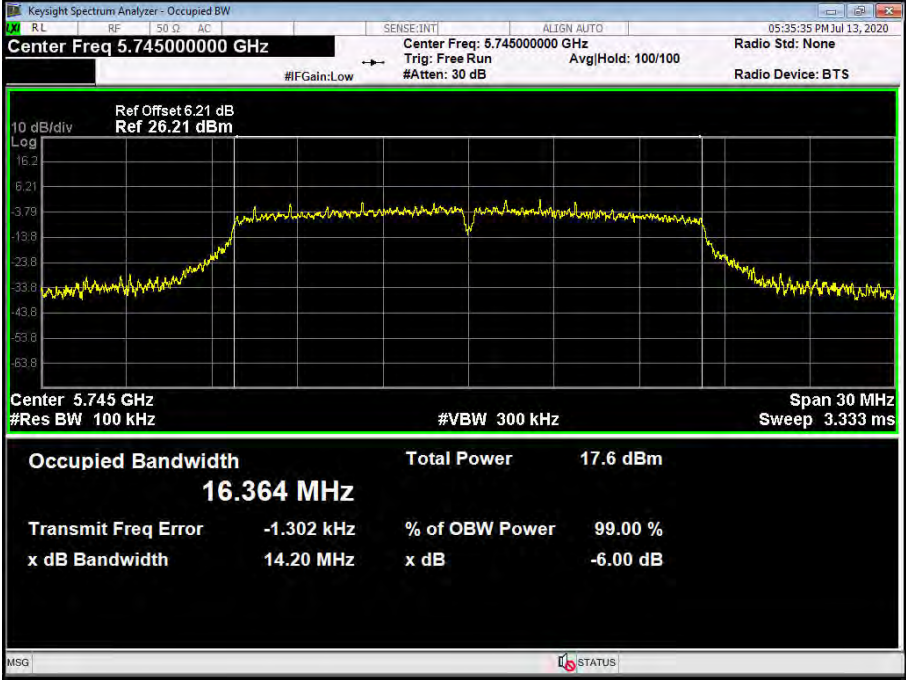
**5230 MHz**





Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 3.8V		
Test Mode:	TX 802.11ac(VHT80) Mode (U-NII-1)		
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
42	5210	80.46	75.266

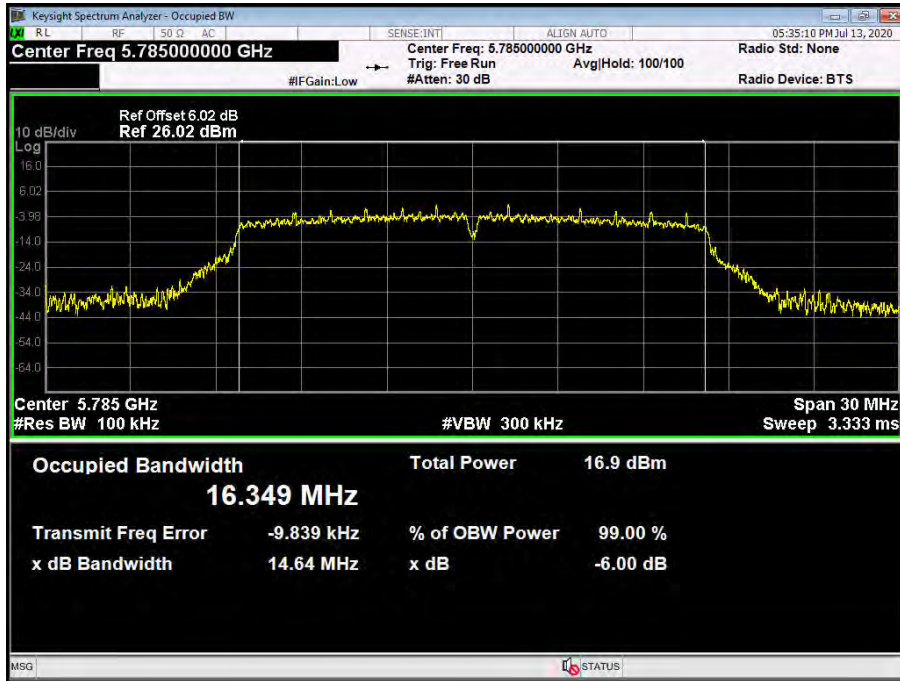
**802.11ac(VHT80) Mode**
**5210 MHz**


<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11a Mode (U-NII-3)		
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
149	5745	14.20	16.364
157	5785	14.64	16.349
165	5825	15.13	16.374
<b>802.11a Mode</b>			
<b>5745 MHz</b>			
			



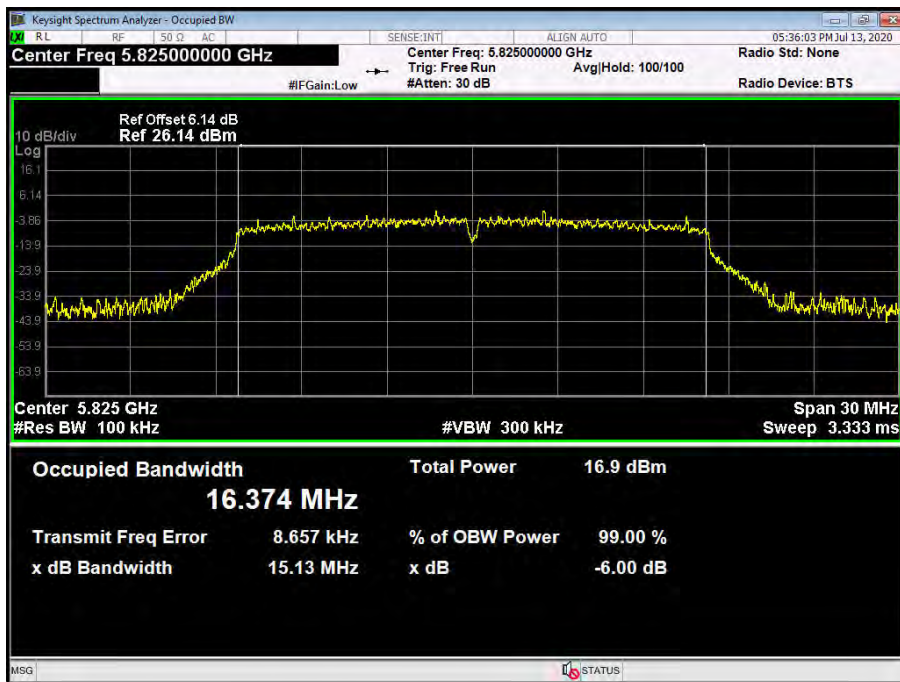
**802.11a Mode**

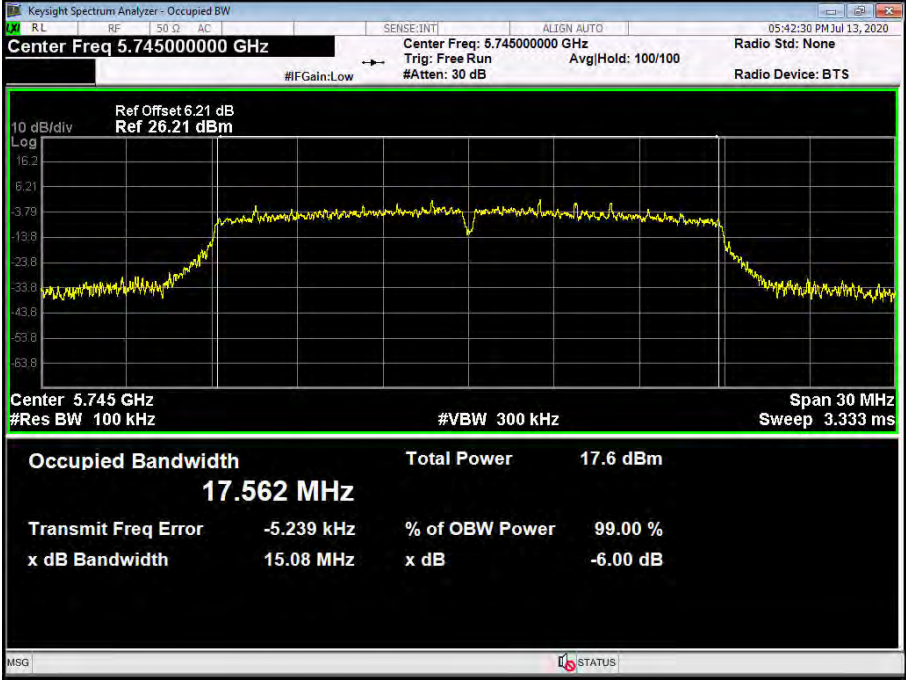
**5785 MHz**



**802.11a Mode**

**5825 MHz**

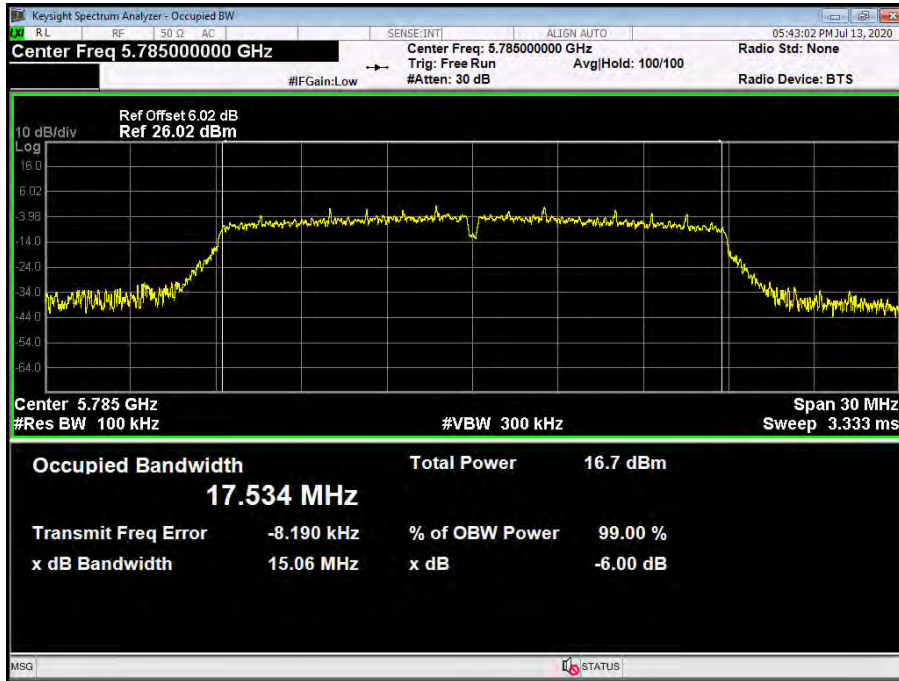


<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11n(HT20) Mode (U-NII-3)		
<b>Channel</b>	<b>Frequency (MHz)</b>	<b>6dB Bandwidth (MHz)</b>	<b>99% Bandwidth (MHz)</b>
149	5745	15.08	17.562
157	5785	15.06	17.534
165	5825	15.03	17.536
<b>802.11n(HT20) Mode</b>			
<b>5745 MHz</b>			
			



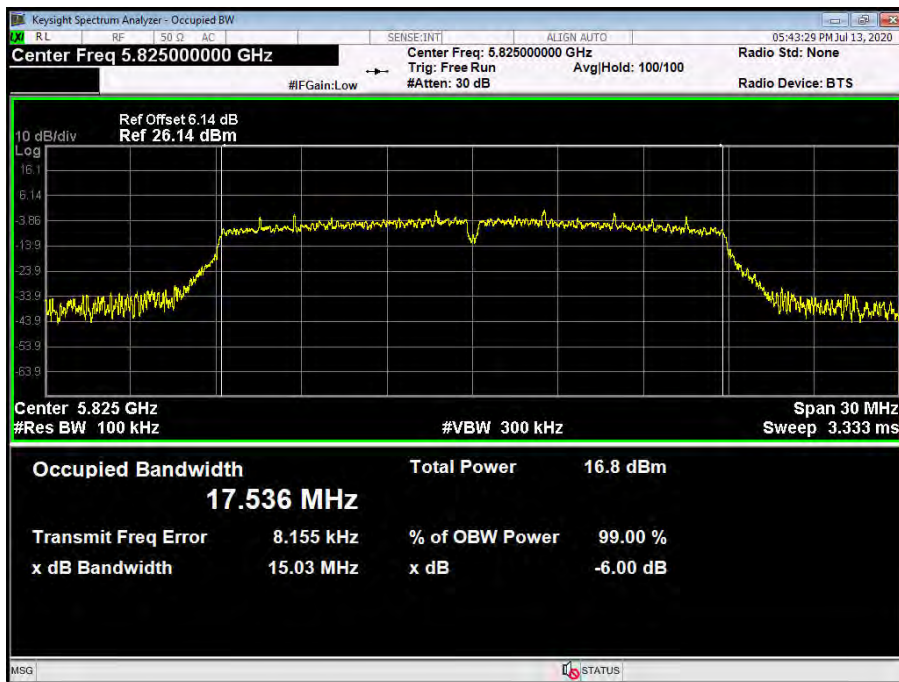
**802.11n(HT20) Mode**

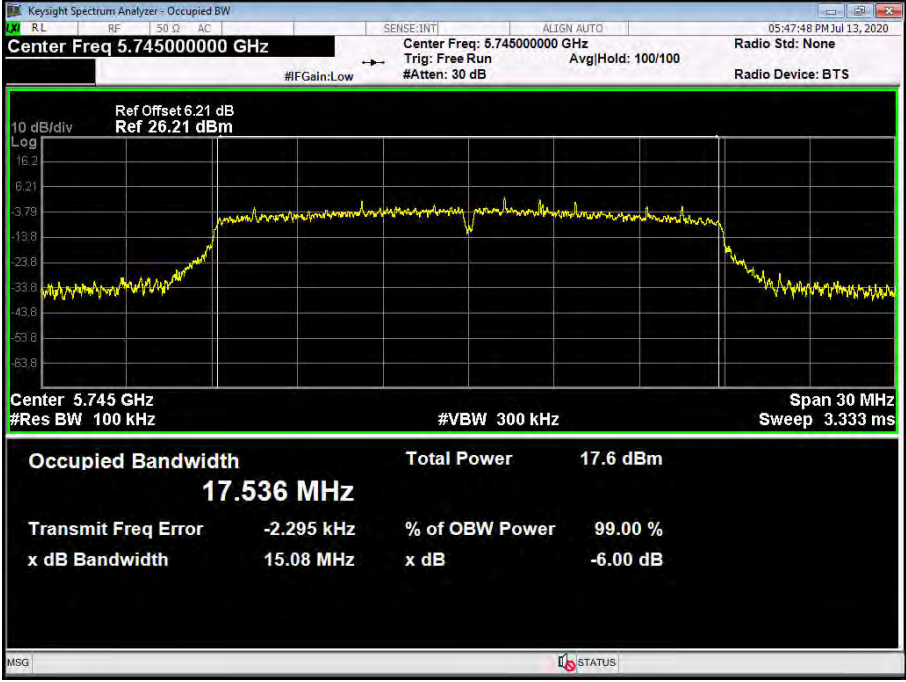
**5785 MHz**



**802.11n(HT20) Mode**

**5825 MHz**

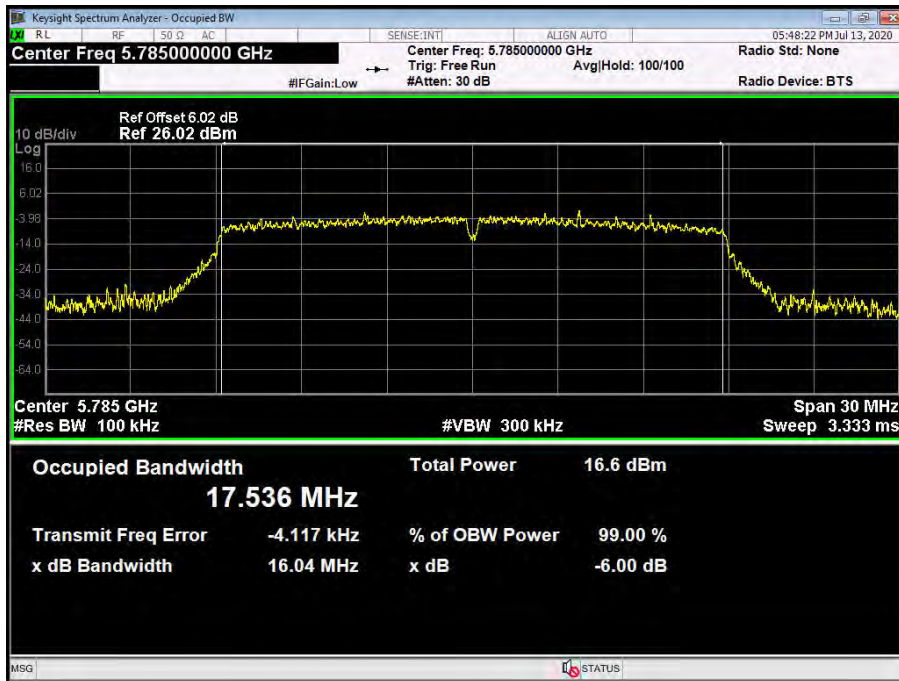


<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11ac(VHT20) Mode (U-NII-3)		
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
149	5745	15.08	17.536
157	5785	16.04	17.536
165	5825	15.11	17.535
<b>802.11ac(VHT20) Mode</b>			
<b>5745 MHz</b>			
			



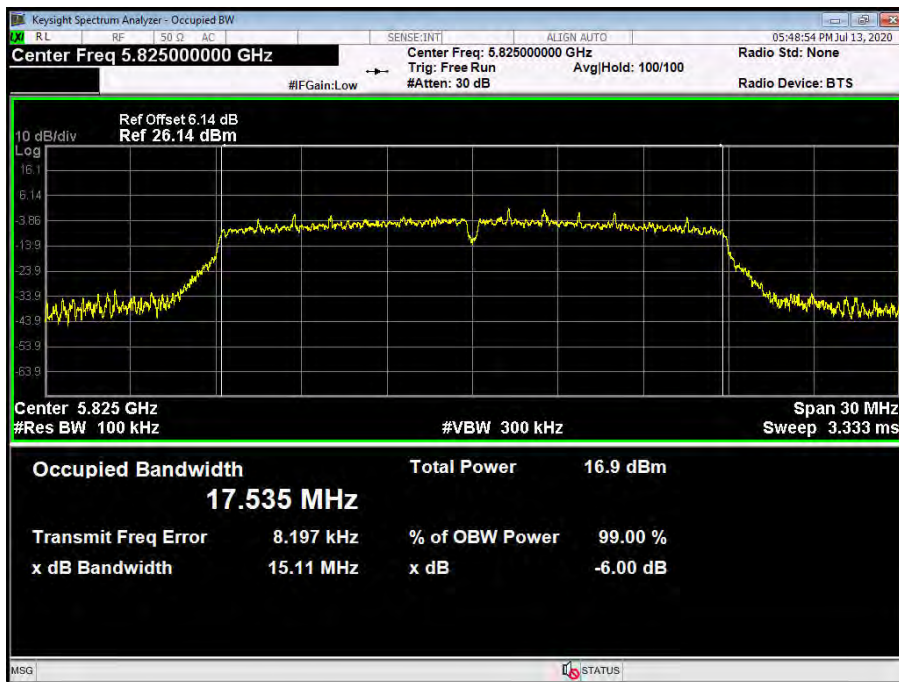
**802.11ac(VHT20) Mode**

**5785 MHz**

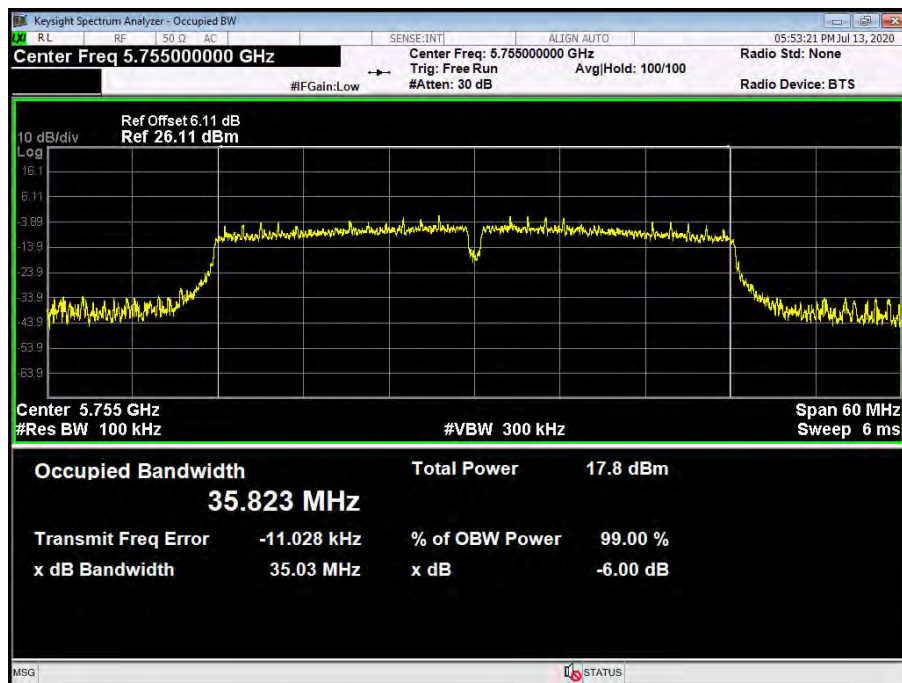


**802.11ac(VHT20) Mode**

**5825 MHz**



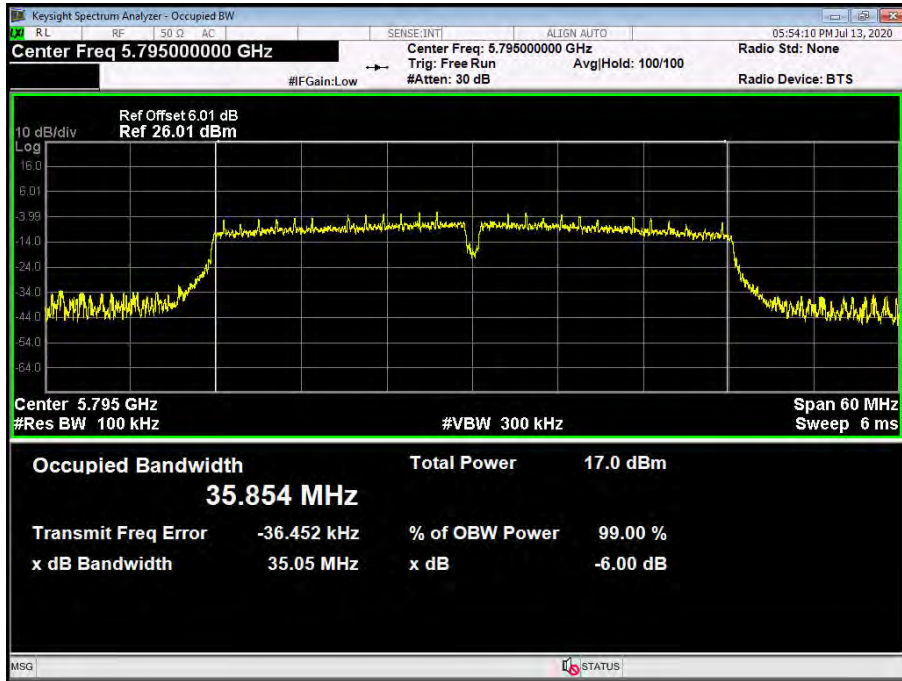
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11n(HT40) Mode (U-NII-3)		
<b>Channel</b>	<b>Frequency (MHz)</b>	<b>6dB Bandwidth (MHz)</b>	<b>99% Bandwidth (MHz)</b>
151	5755	35.03	35.823
159	5795	35.05	35.854

**802.11n(HT40) Mode**
**5755 MHz**




**802.11n(HT40) Mode**

**5795 MHz**

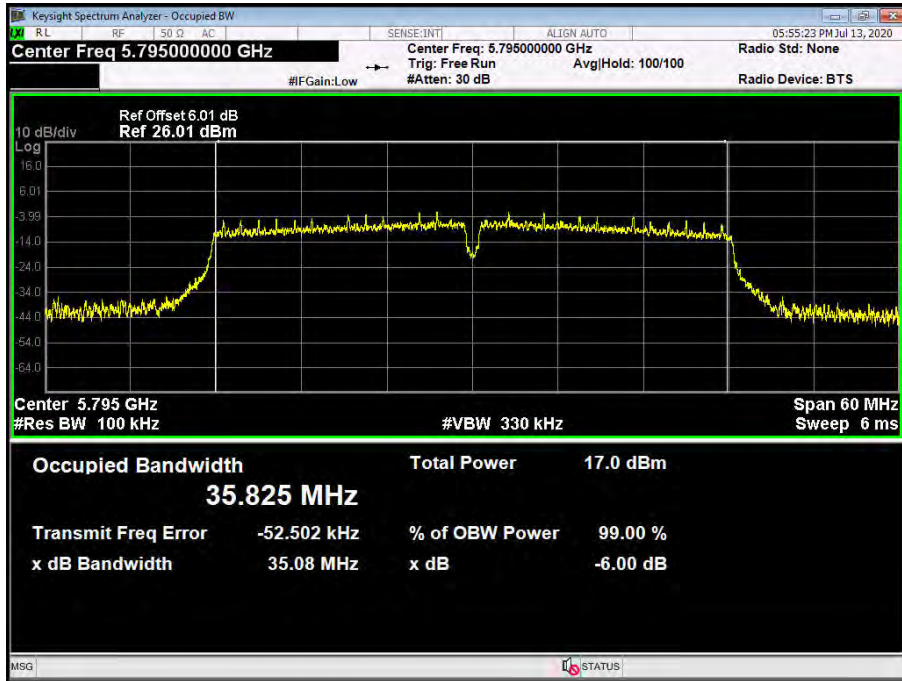


<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11ac(VHT40) Mode (U-NII-3)		
<b>Channel</b>	<b>Frequency (MHz)</b>	<b>6dB Bandwidth (MHz)</b>	<b>99% Bandwidth (MHz)</b>
151	5755	33.86	35.836
159	5795	35.08	35.825
<b>802.11ac(VHT40) Mode</b>			
<b>5755 MHz</b>			
<b>Occupied Bandwidth</b>		<b>Total Power</b>	17.7 dBm
<b>35.836 MHz</b>			
<b>Transmit Freq Error</b>	-26.802 kHz	<b>% of OBW Power</b>	99.00 %
<b>x dB Bandwidth</b>	33.86 MHz	<b>x dB</b>	-6.00 dB



**802.11ac(VHT40) Mode**

**5795 MHz**



<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>Test Mode:</b>	TX 802.11ac(HT80) Mode (U-NII-3)		
<b>Channel</b>	<b>Frequency (MHz)</b>	<b>6dB Bandwidth (MHz)</b>	<b>99% Bandwidth (MHz)</b>
155	5775	75.07	75.185
<b>802.11ac(VHT80) Mode</b>			
<b>5775 MHz</b>			



## Attachment E--AVG Output Power Test Data

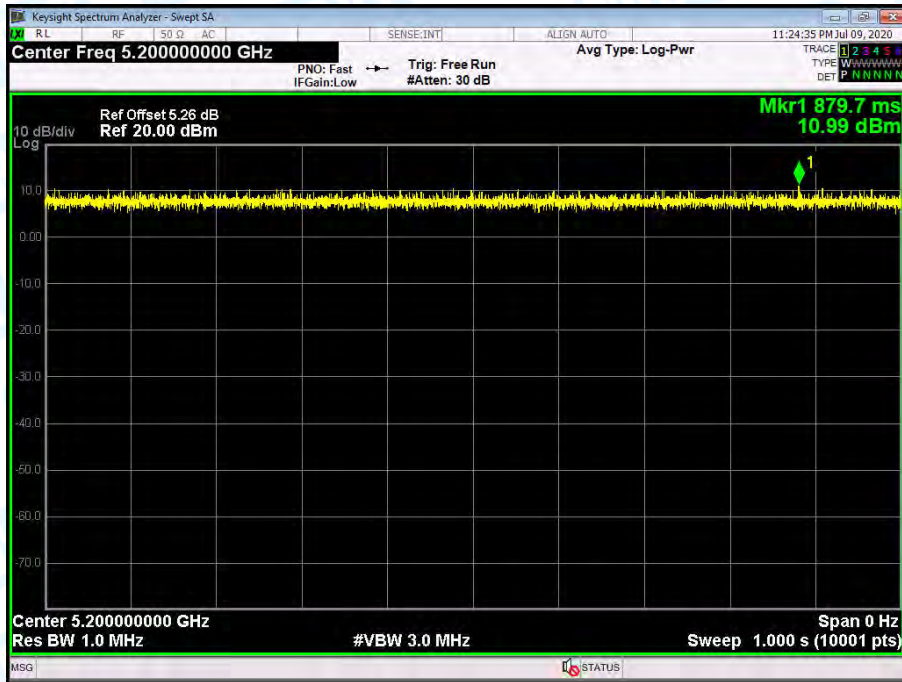
Temperature:	25 °C	Relative Humidity:	55%		
Test Voltage:	DC 3.8V				
<b>U-NII-1</b>					
Test Mode	Frequency (MHz)	Test Data			Limit (dBm)
		Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	
802.11a	5180	12.42	0	12.42	24
	5200	12.24	0	12.24	
	5240	12.41	0	12.41	
802.11n (HT20)	5180	10.22	0	10.22	
	5200	10.26	0	10.26	
	5240	10.21	0	10.21	
802.11ac (VHT20)	5180	12.44	0	12.44	
	5200	12.41	0	12.41	
	5240	12.53	0	12.53	
802.11n (HT40)	5190	12.33	0	12.33	
	5230	11.12	0	11.12	
802.11ac(VHT40)	5190	12.29	0	12.29	
	5230	10.13	0	10.13	
802.11ac(VHT80)	5210	11.92	0	11.92	
<b>Result: PASS</b>					
<b>Remark:</b> the Directional Gain=1.15dBi<6 dBi. So $P_{out} = P_{limit} = 24\text{dBm}$					

<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%		
<b>Test Voltage:</b>	DC 3.8V				
<b>U-NII-3</b>					
Test Mode	Frequency (MHz)	Test Data			Limit (dBm)
		Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	
802.11a	5745	10.56	0	10.56	30
	5785	9.16	0	9.16	
	5825	9.57	0	9.57	
802.11n (HT20)	5745	10.34	0	10.34	
	5785	9.14	0	9.14	
	5825	9.46	0	9.46	
802.11ac (VHT20)	5745	10.53	0	10.53	
	5785	9.27	0	9.27	
	5825	9.54	0	9.54	
802.11n (HT40)	5755	10.10	0	10.10	
	5795	9.10	0	9.10	
802.11ac(VHT40)	5755	10.01	0	10.01	
	5795	9.22	0	9.22	
802.11ac(VHT80)	5775	9.62	0	9.62	
<b>Result: PASS</b>					
<b>Remark:</b> the Directional Gain=1.15dBi<6 dBi. So $P_{out} = P_{limit} = 30\text{dBm}$					

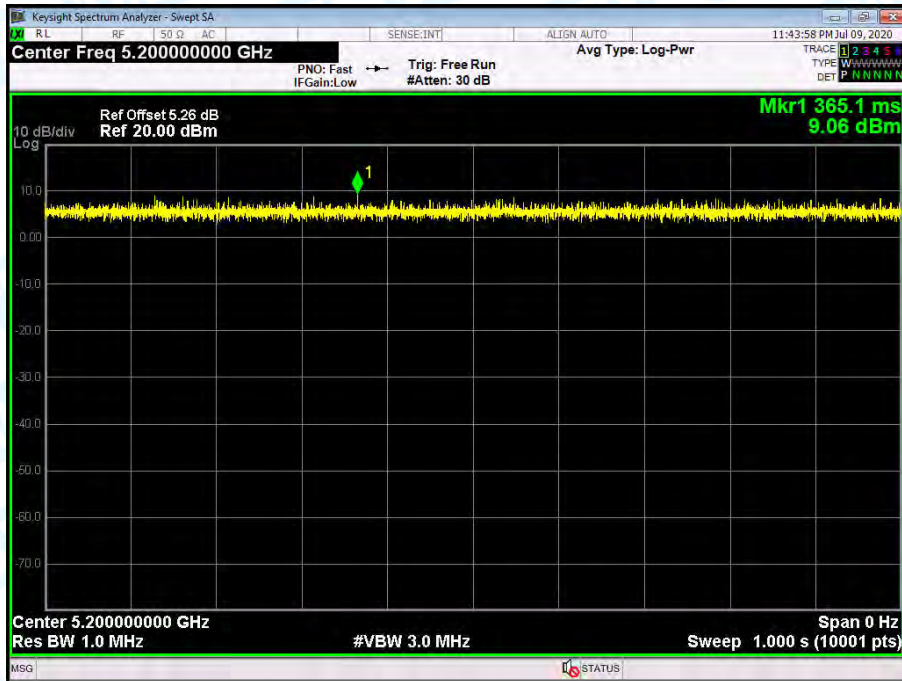


Test Mode		Duty cycle
U-NII-1	802.11 a	>98%
	802.11 n(HT20)	
	802.11 ac(VHT20)	
	802.11 n(HT40)	
	802.11 ac(VHT40)	
	802.11 ac(VHT80)	
U-NII-3	802.11 a	
	802.11 n(HT20)	
	802.11 ac(VHT20)	
	802.11 n(HT40)	
	802.11 ac(VHT40)	
	802.11 ac(VHT80)	
Please see the next plots.		

**802.11 a 5200MHz U-NII-1**

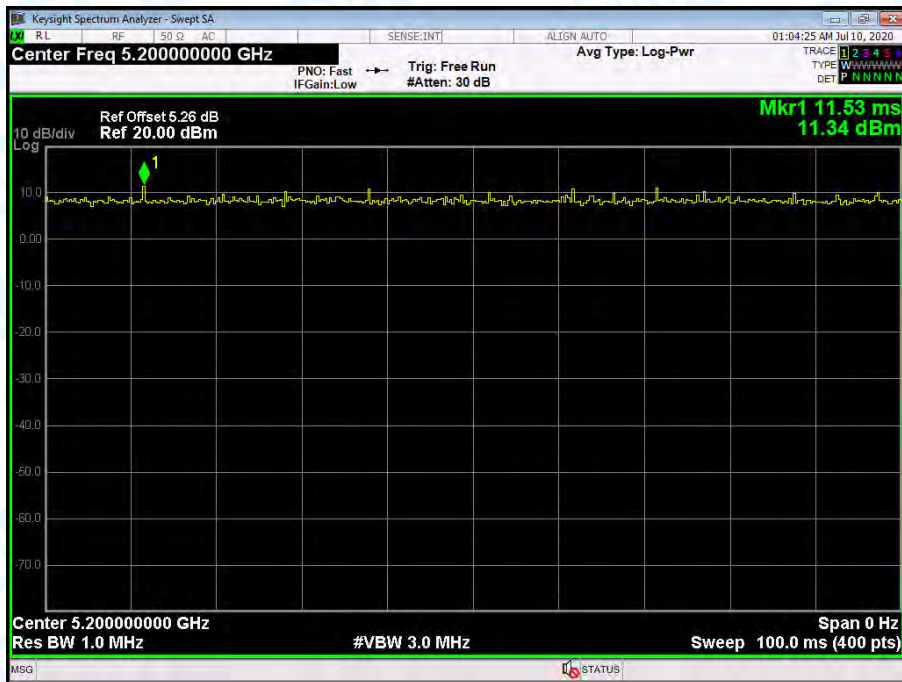


**802.11 n(HT20) 5200MHz U-NII-1**

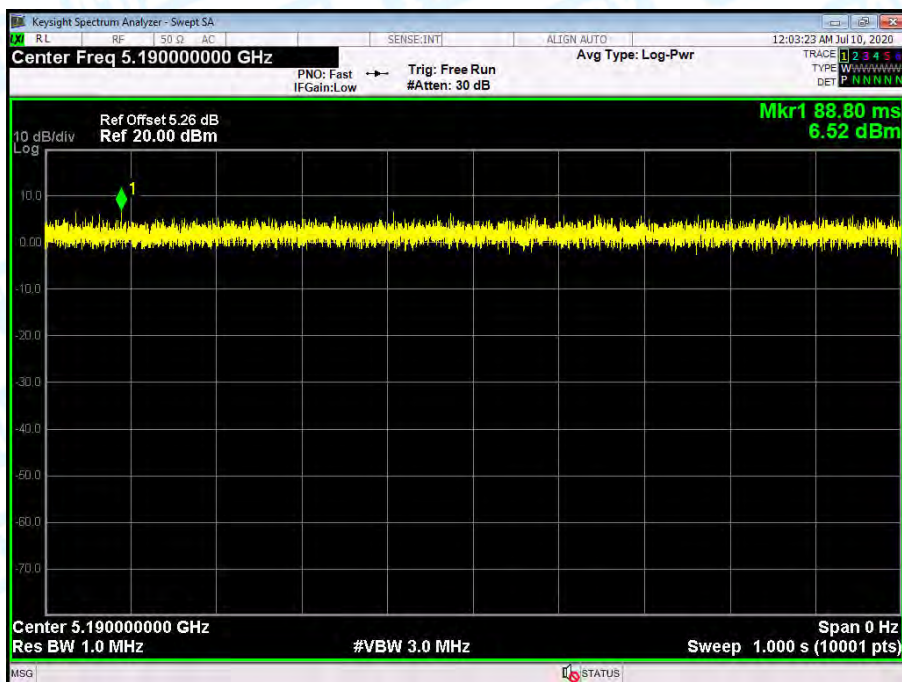




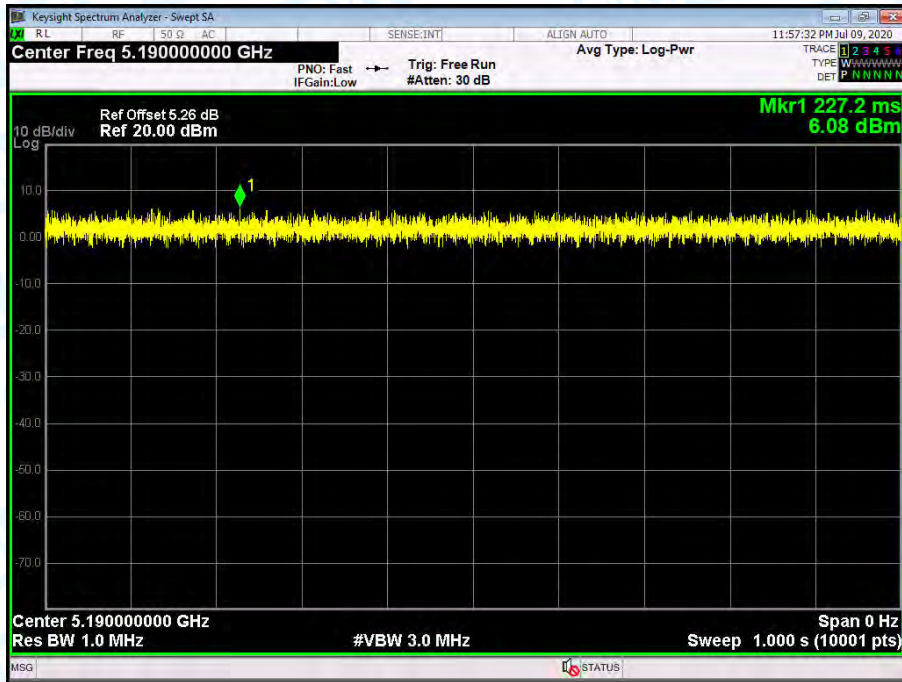
**802.11 ac(HT20) 5200MHz U-NII-1**



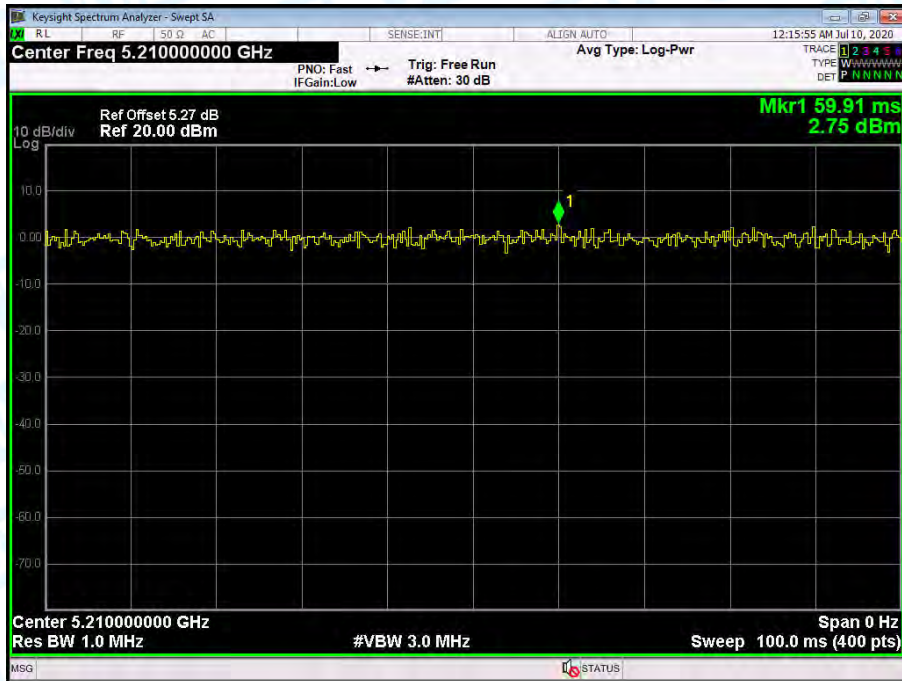
**802.11 n(HT40) 5190MHz U-NII-1**



**802.11 ac(VHT40) 5190MHz U-NII-1**

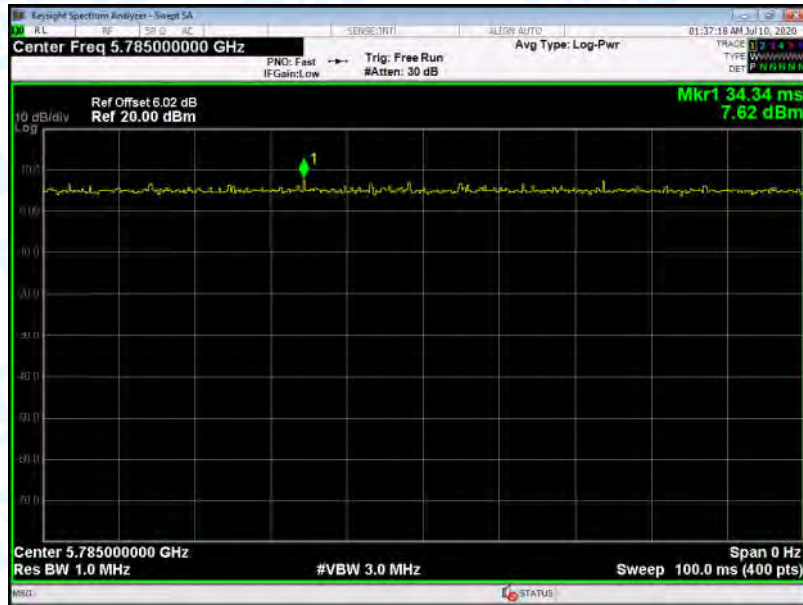


**802.11 ac(HT80) 5210MHz U-NII-1**

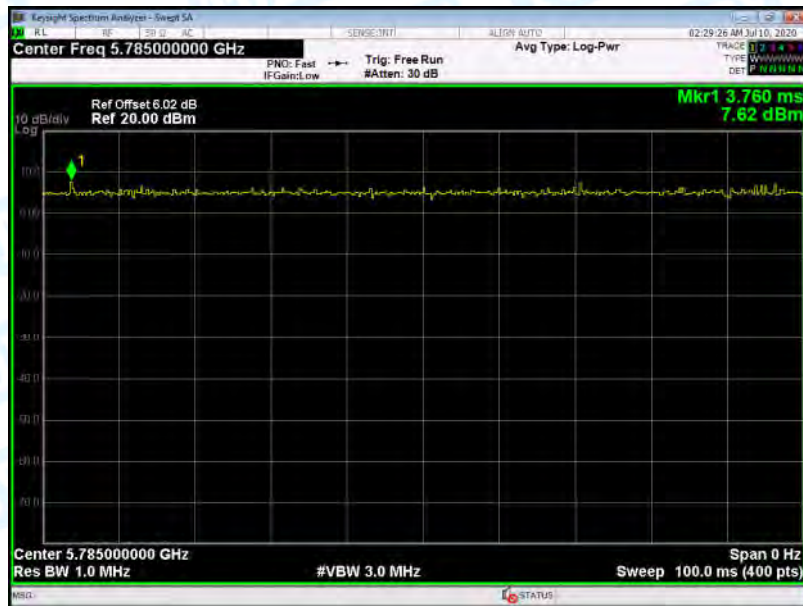




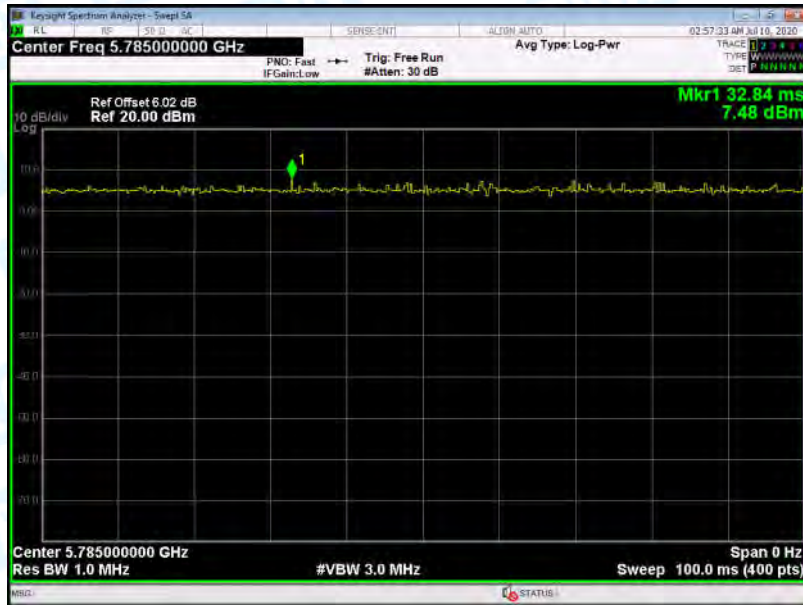
**802.11 a 5785MHz U-NII-3**



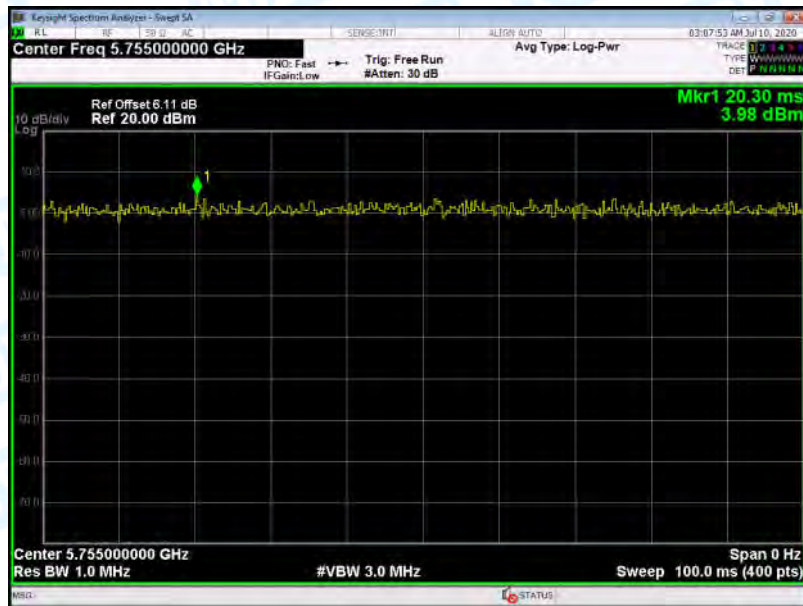
**802.11 n(HT20) 5785MHz U-NII-3**



**802.11 ac(VHT20) 5785MHz U-NII-3**

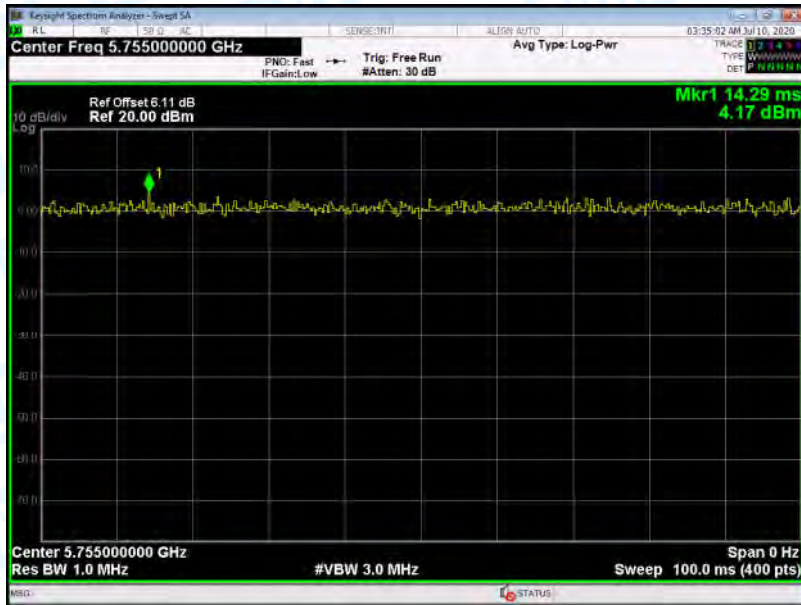


**802.11 n(HT40) 5755MHz U-NII-3**

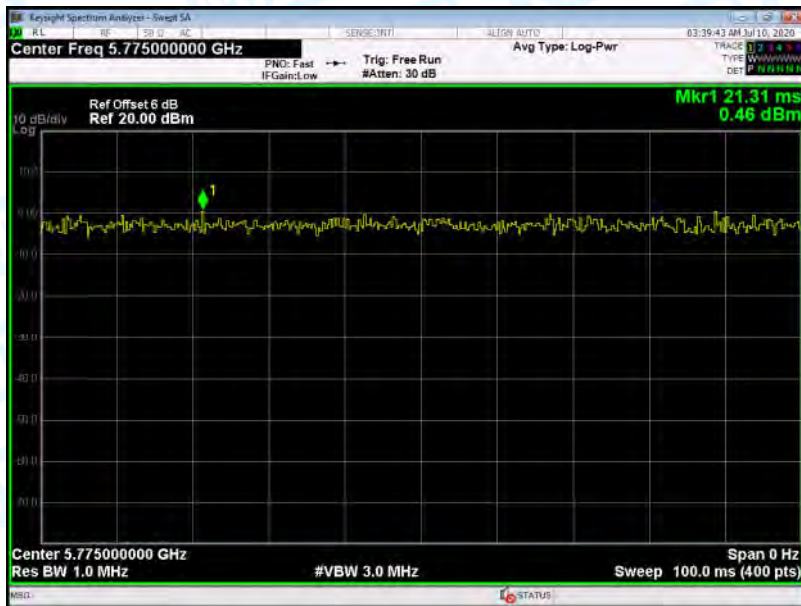




**802.11 ac(VHT40) 5755MHz U-NII-3**



**802.11 ac(VHT80) 5775MHz U-NII-3**

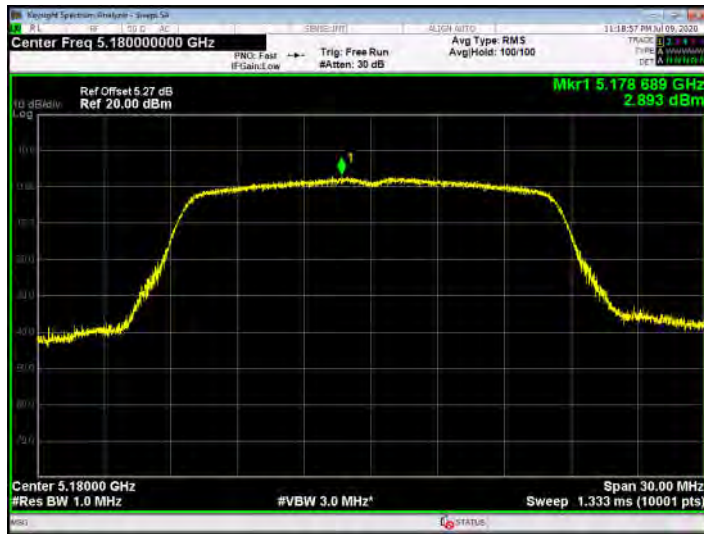


## Attachment F-- Power Spectral Density Test Data

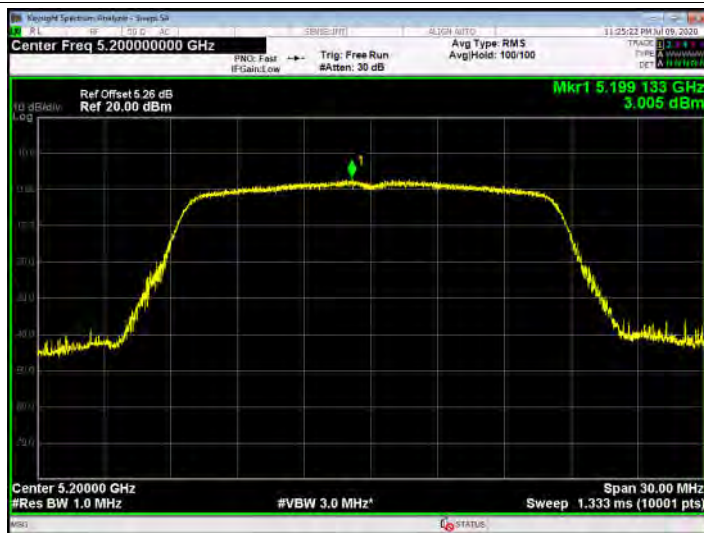
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 3.8V		
<b>U-NII-1</b>			
Test Mode	Frequency (MHz)	Test Data	
		Power Density (dBm/MHz)	
802.11a	5180	2.893	
	5200	3.005	
	5240	2.755	
802.11n (HT20)	5180	2.524	
	5200	0.383	
	5240	0.410	
802.11ac (VHT20)	5180	2.503	
	5200	2.674	
	5240	2.727	
802.11n (HT40)	5190	-0.545	
	5230	-1.676	
802.11ac(VHT40)	5190	-0.264	
	5230	-0.382	
802.11ac(VHT80)	5210	-3.773	
<b>Result: PASS</b>			
<b>Remark:</b> the Directional Gain=1.15dBi<6 dBi. So $P_{out} = P_{limit}$			
Test plots please refer to below pages:			



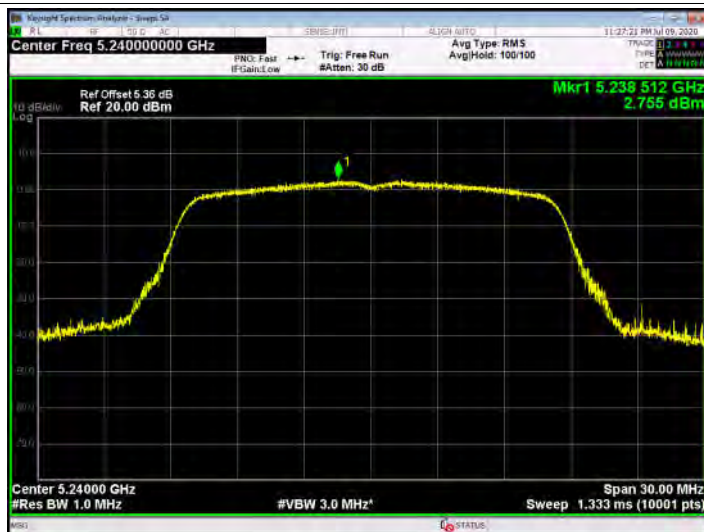
**802.11 a 5180 MHz**



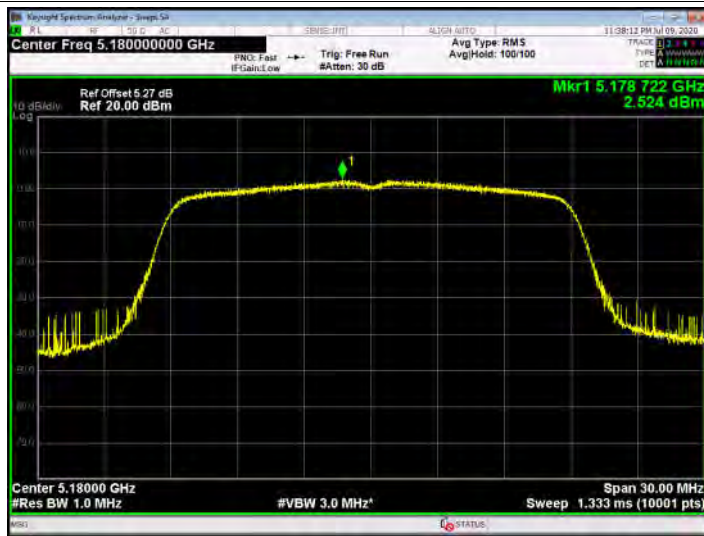
**802.11 a 5200 MHz**



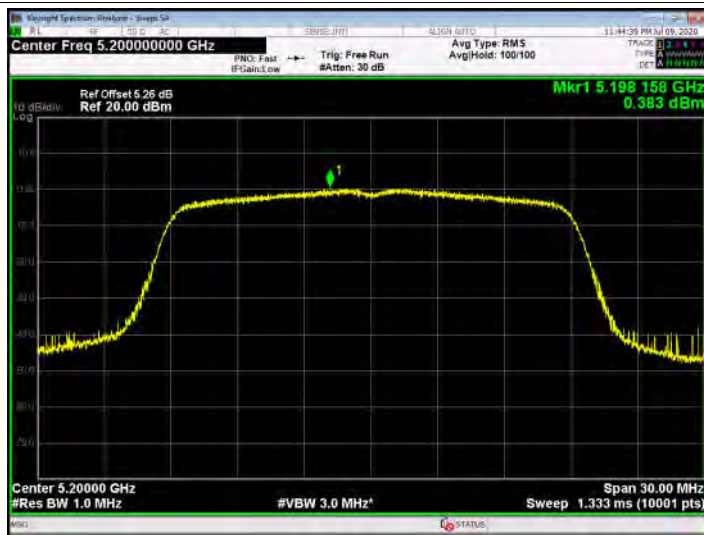
**802.11 a 5240 MHz**



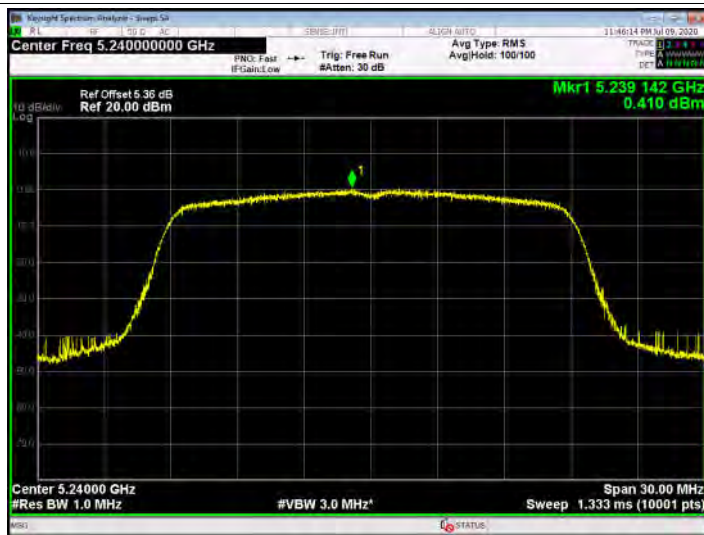
**802.11 n(HT20) 5180 MHz**



**802.11 n(HT20) 5200 MHz**

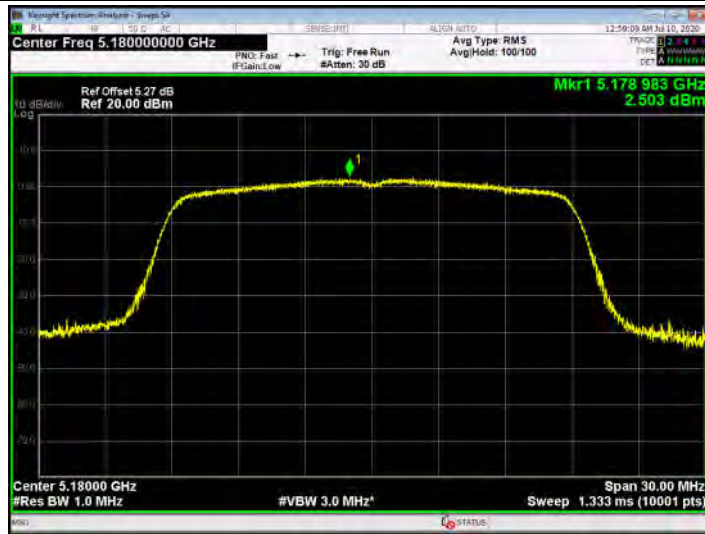


**802.11 n(HT20) 5240 MHz**

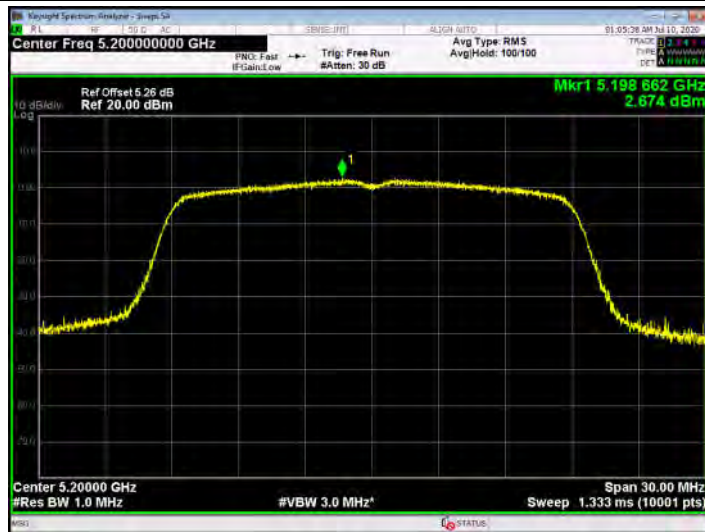




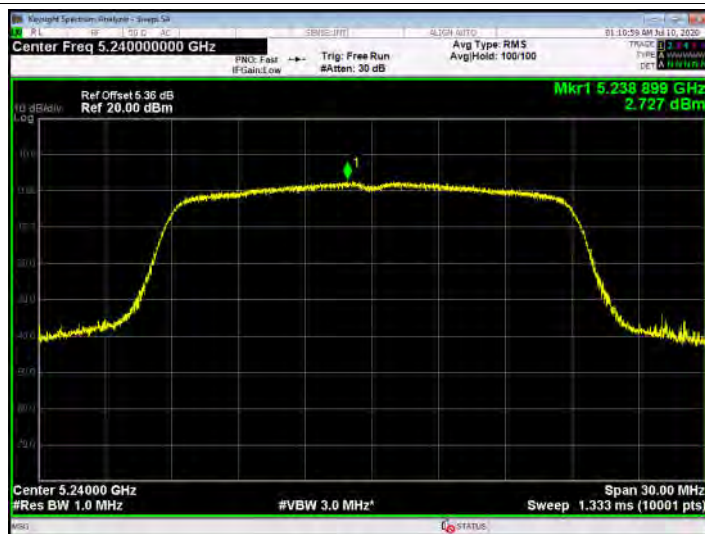
**802.11 ac(VHT20) 5180 MHz**



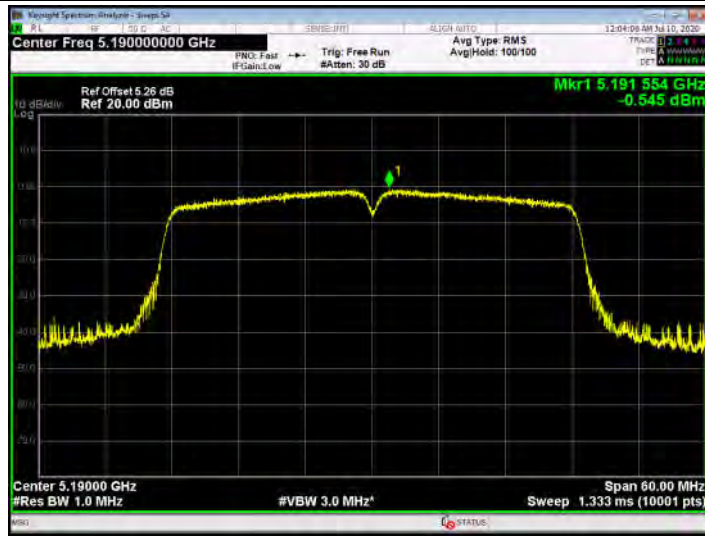
**802.11 ac(VHT20) 5200 MHz**



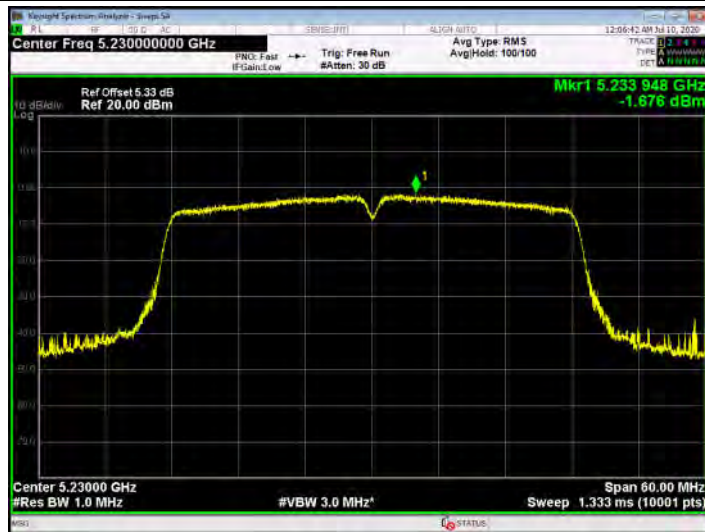
**802.11 ac(VHT20) 5240 MHz**



**802.11 n(HT40) 5190 MHz**

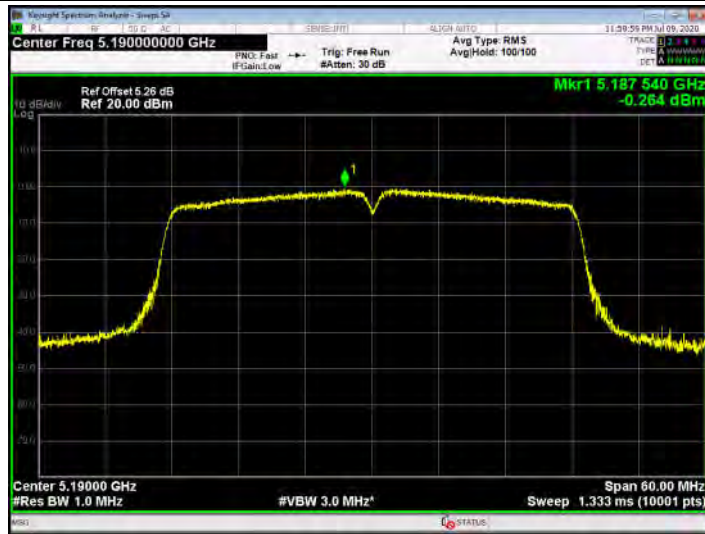


**802.11 n(HT40) 5230 MHz**

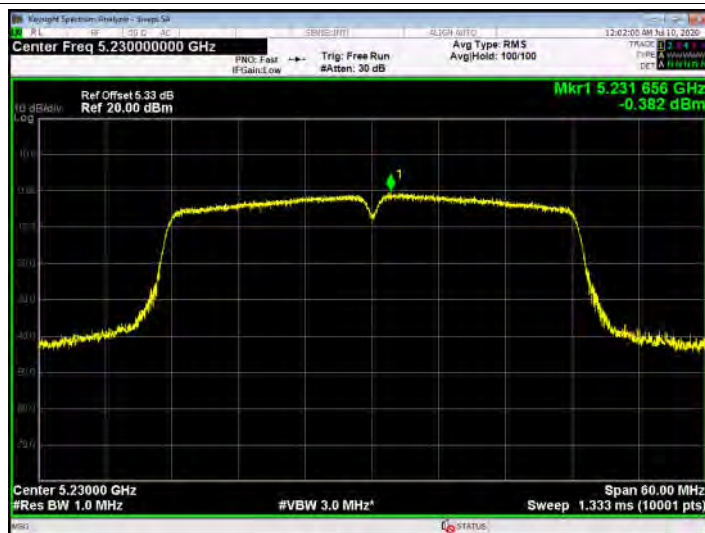




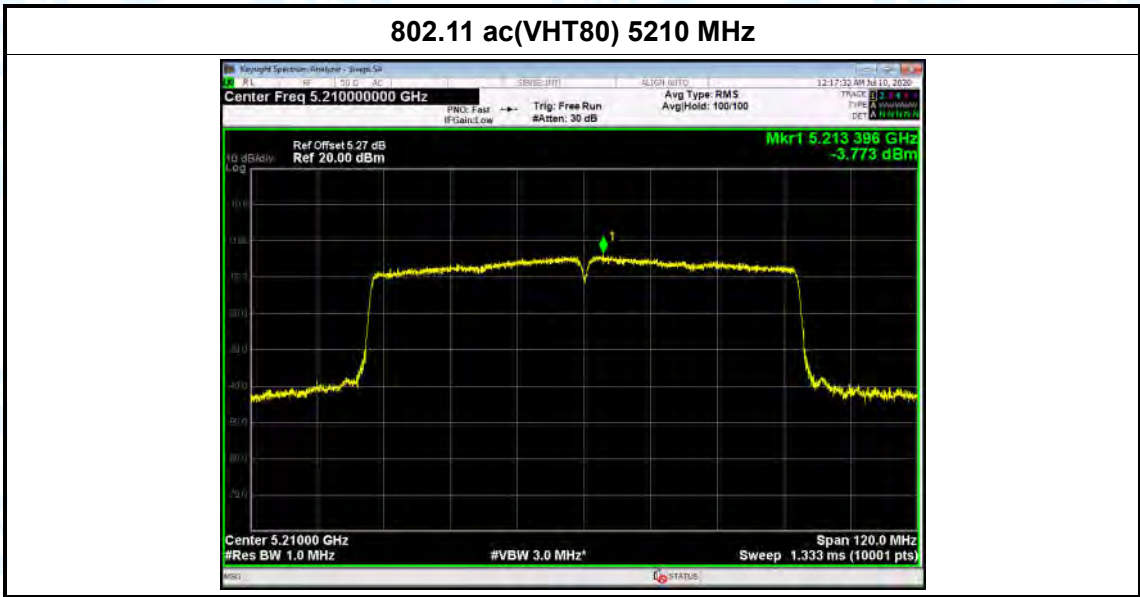
**802.11 ac(VHT40) 5190 MHz**



**802.11 ac(VHT40) 5230 MHz**



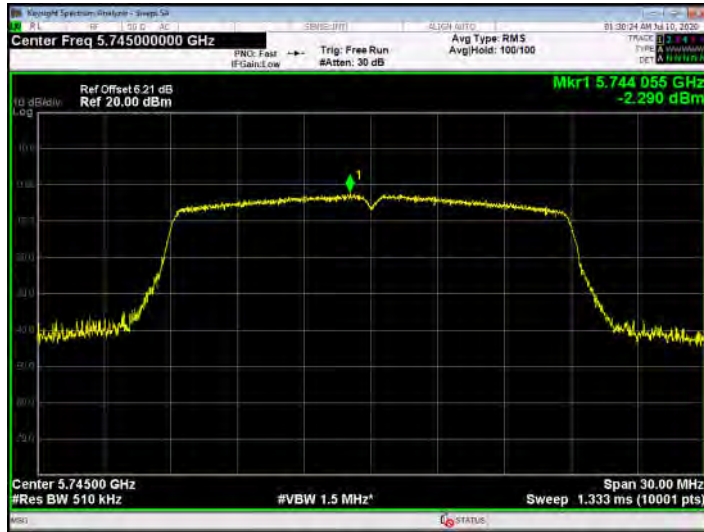
802.11 ac(VHT80) 5210 MHz



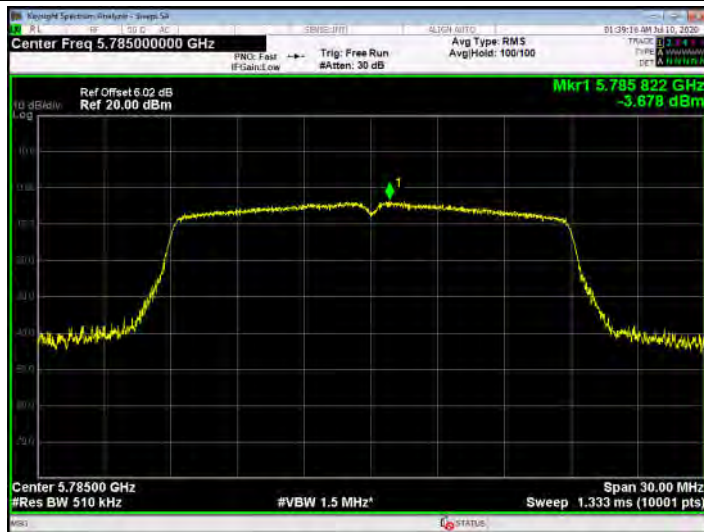


<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V		
<b>U-NII-3</b>			
Test Mode	Frequency (MHz)	Test Data	Limit (dBm/500KHz)
		Power Density (dBm/500KHz)	
802.11a	5745	-2.290	<b>30</b>
	5785	-3.678	
	5825	-3.390	
802.11n (HT20)	5745	-2.353	
	5785	-3.689	
	5825	-3.253	
802.11ac (VHT20)	5745	-1.858	
	5785	-3.387	
	5825	-3.232	
802.11n (HT40)	5755	-5.543	
	5795	-6.686	
802.11ac(VHT40)	5755	-5.559	
	5795	-6.530	
802.11ac(VHT80)	5775	-9.272	
<b>Result: PASS</b>			
<b>Remark:</b> the Directional Gain=1.15dBi<6 dBi. So $P_{out} = P_{limit}$			
<b>Test plots please refer to below pages:</b>			

**802.11 a 5745 MHz**



**802.11 a 5785 MHz**

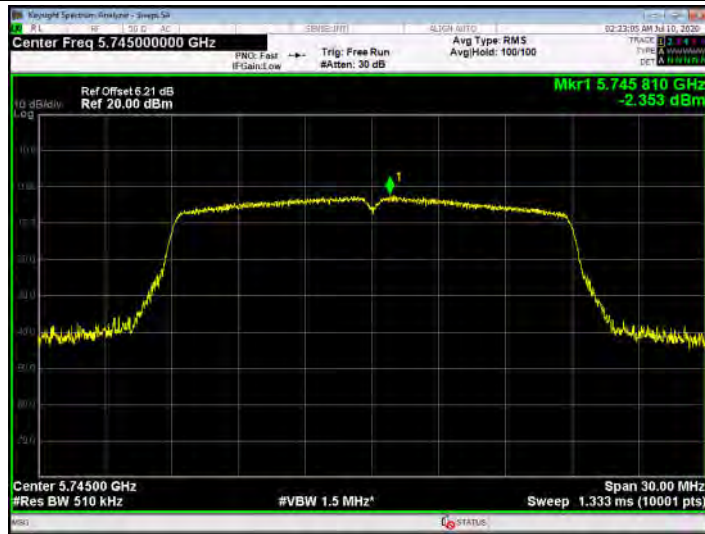


**802.11 a 5825 MHz**





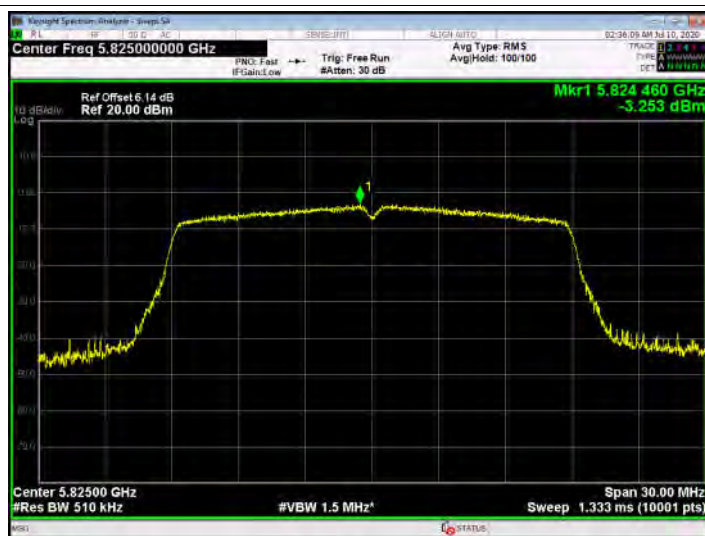
**802.11 n(HT20) 5745 MHz**



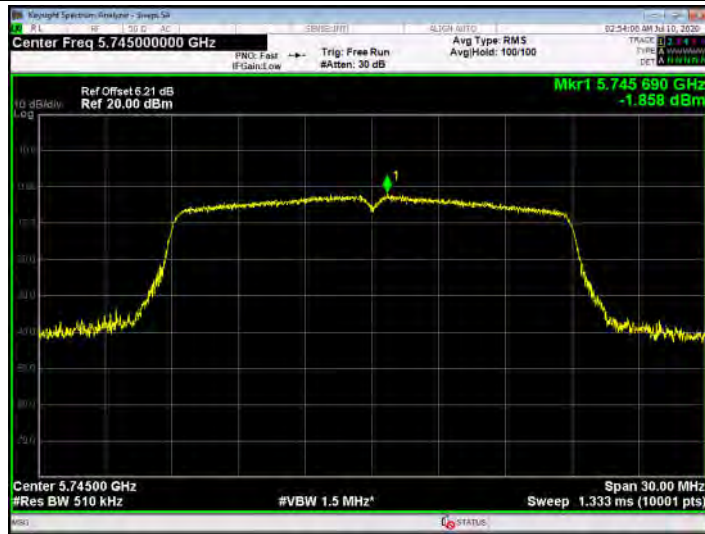
**802.11 n(HT20) 5785 MHz**



**802.11 n(HT20) 5825 MHz**



**802.11 ac(VHT20) 5745 MHz**



**802.11 ac(VHT20) 5785 MHz**

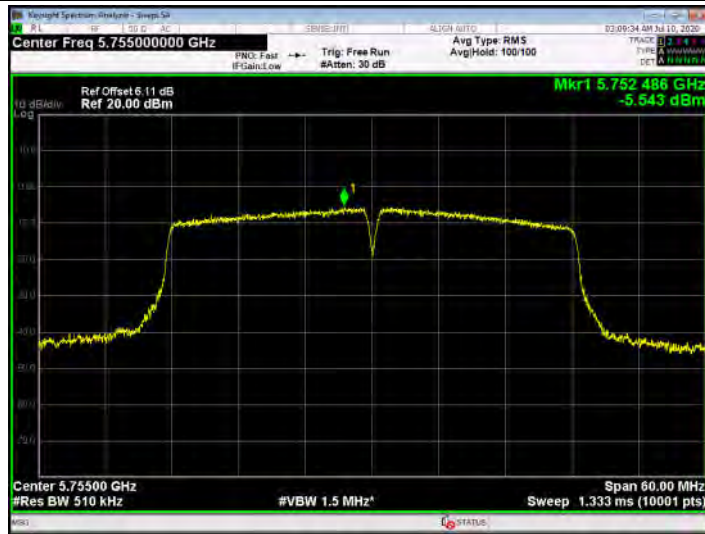


**802.11 ac(VHT20) 5825 MHz**





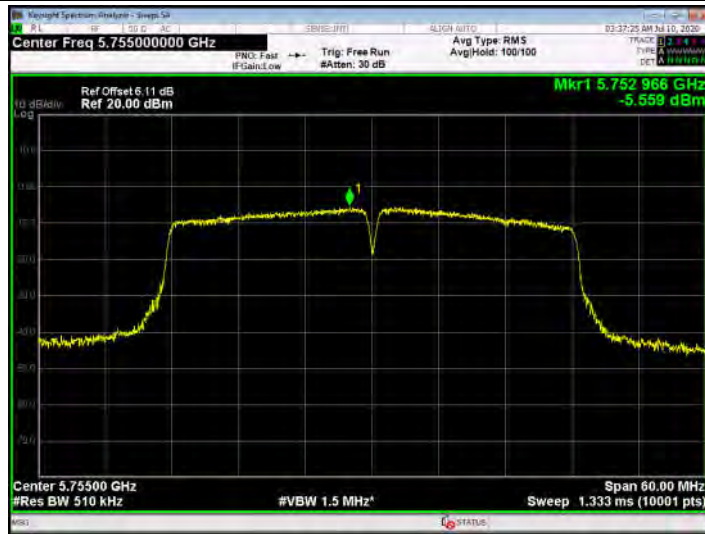
**802.11 n(HT40) 5755 MHz**



**802.11 n(HT40) 5795 MHz**



**802.11 ac(VHT40) 5755 MHz**

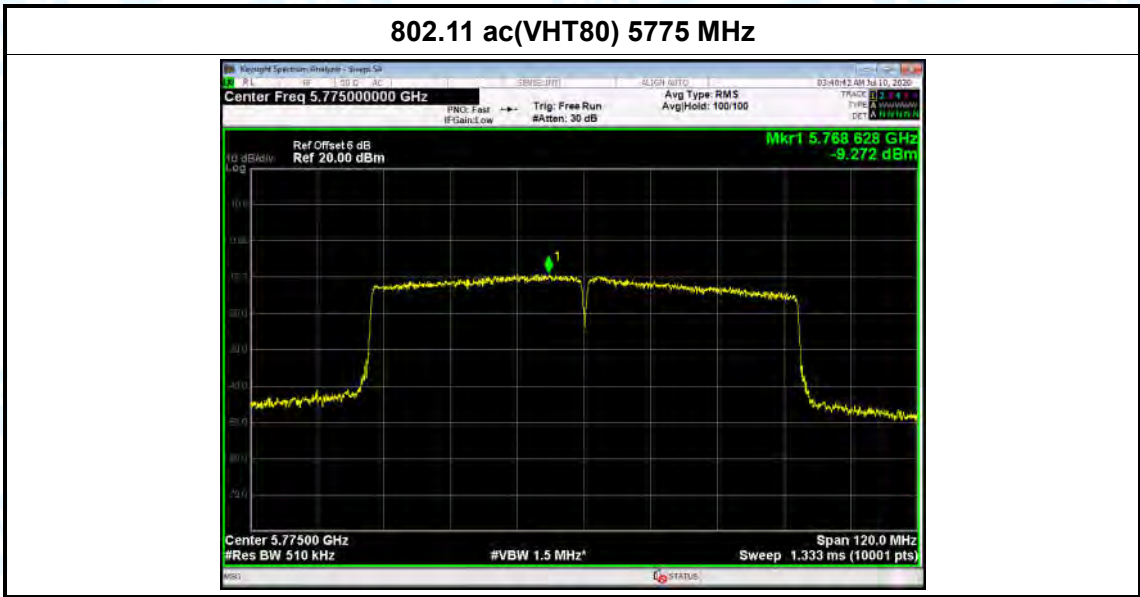


**802.11 ac(VHT40) 5795 MHz**





802.11 ac(VHT80) 5775 MHz



## Attachment G----Frequency Stability Measurement Data

Only show the worst case 802.11 a Mode 5180MHz.

801.11a U-NII-1: 5180 MHz	
Voltage vs. Frequency Stability	
Voltage (V)	Measurement Frequency (MHz)
132	5180.0400
120	5180.0300
118	5180.0500
<b>Limit Range (MHz)</b>	5150-5250
<b>Result</b>	PASS
Temperature vs. Frequency Stability	
Temperature (°C)	Measurement Frequency (MHz)
0	5180.0500
10	5180.0300
20	5180.0200
30	5180.0300
40	5180.0500
50	5180.0400
<b>Limit Range (MHz)</b>	5150-5250
<b>Result</b>	PASS



Only show the worst case 802.11 a Mode 5745MHz.

<b>801.11a U-NII-3: 5745 MHz</b>	
<b>Voltage vs. Frequency Stability</b>	
<b>Voltage (V)</b>	<b>Measurement Frequency (MHz)</b>
132	5745.0300
120	5745.0400
118	5744.0500
<b>Limit Range (MHz)</b>	5725-5850
<b>Result</b>	PASS
<b>Temperature vs. Frequency Stability</b>	
<b>Temperature (°C)</b>	<b>Measurement Frequency (MHz)</b>
0	5745.0200
10	5745.0600
20	5745.0300
30	5745.0400
40	5745.0700
50	5745.0600
<b>Limit Range (MHz)</b>	5725-5850
<b>Result</b>	PASS

-----END OF REPORT-----