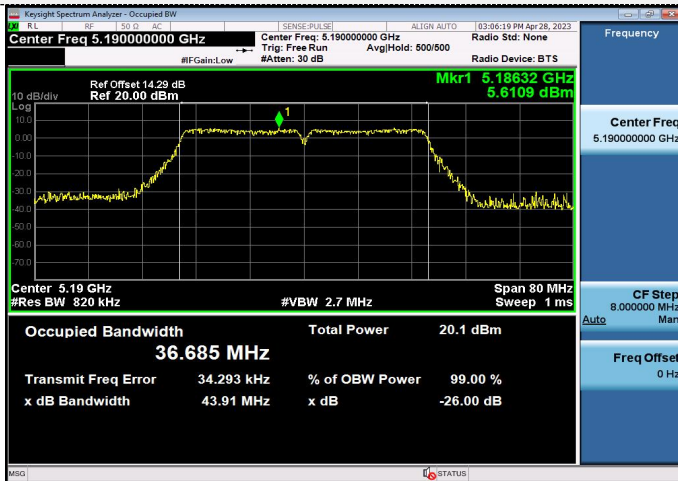
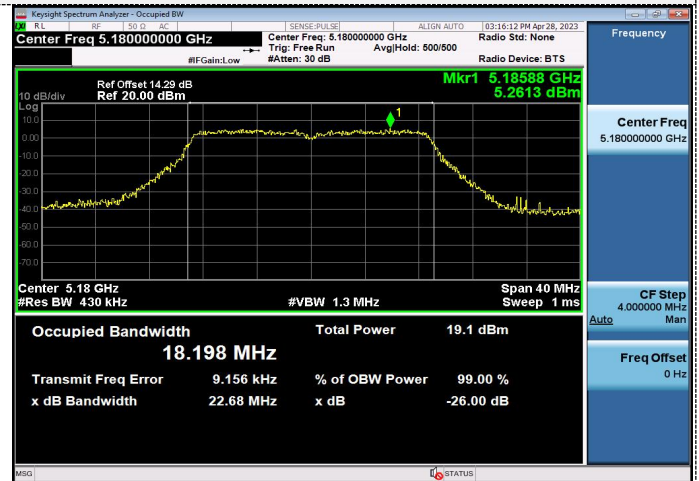


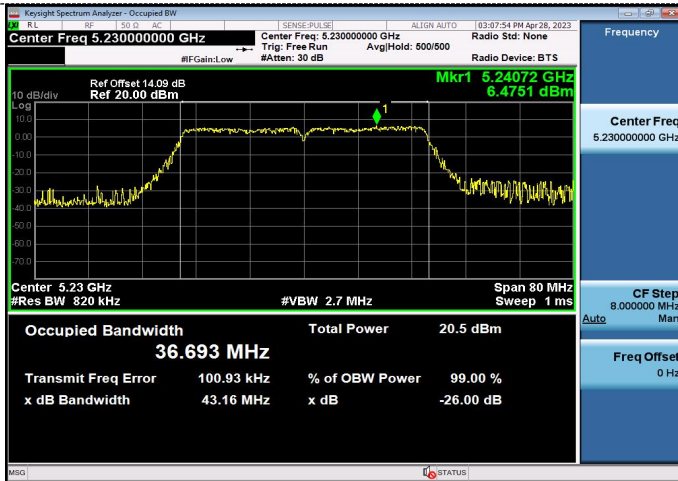
802.11n(HT40)



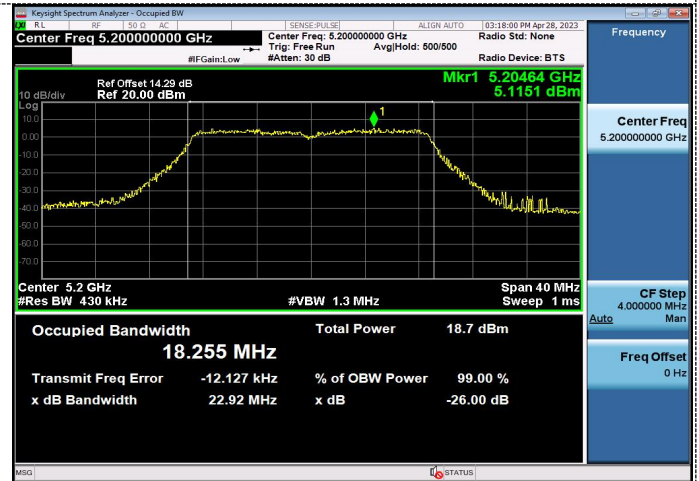
802.11ac(HT20)



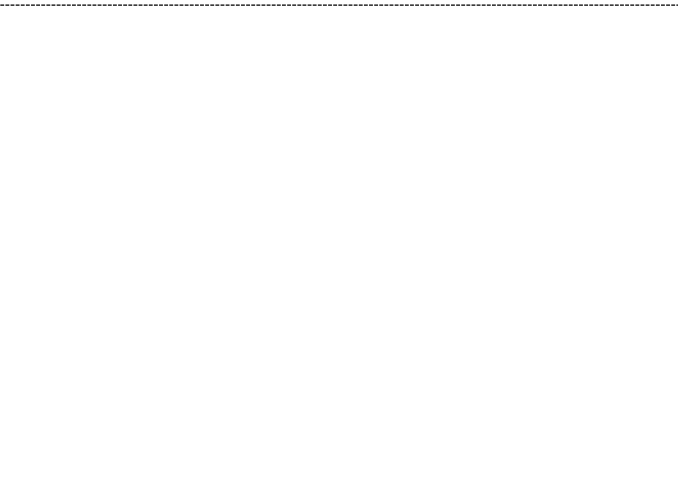
CH38



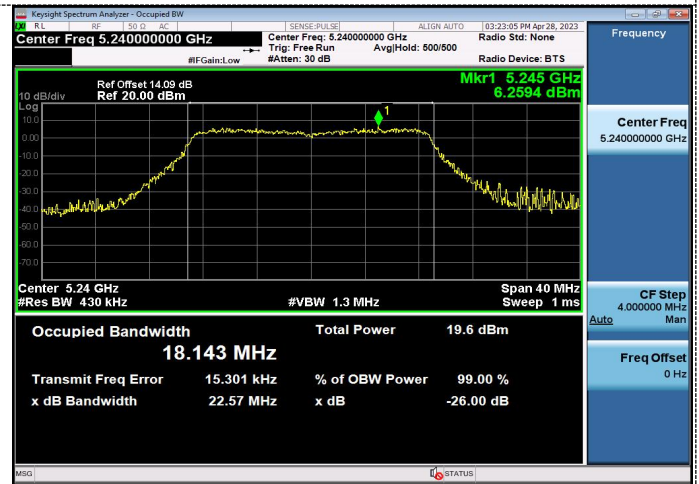
CH36



CH46



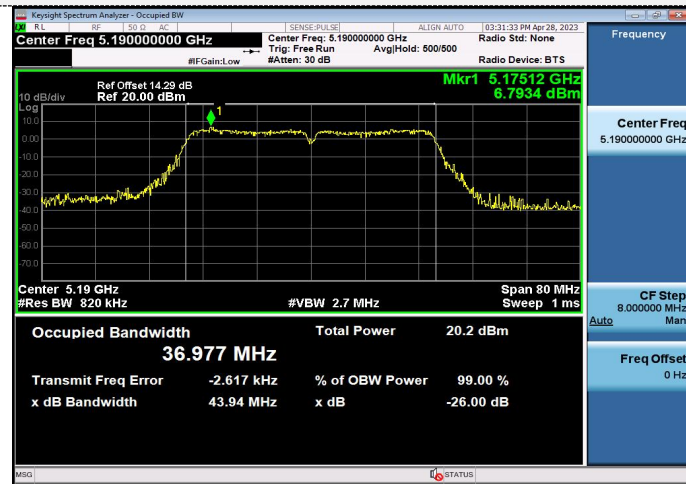
CH40



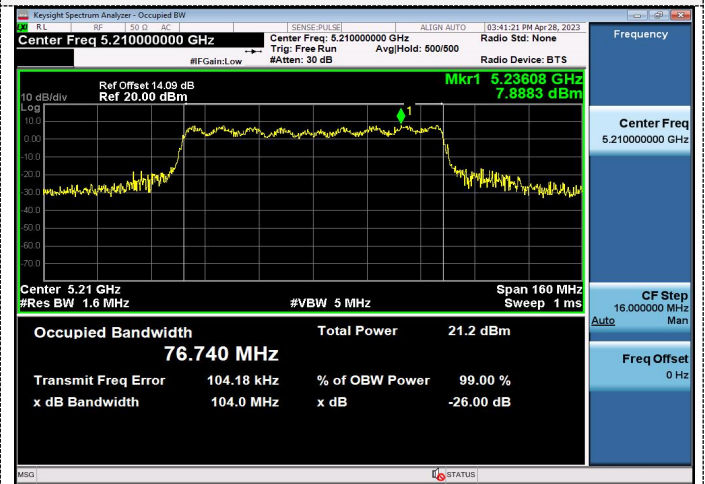
CH48



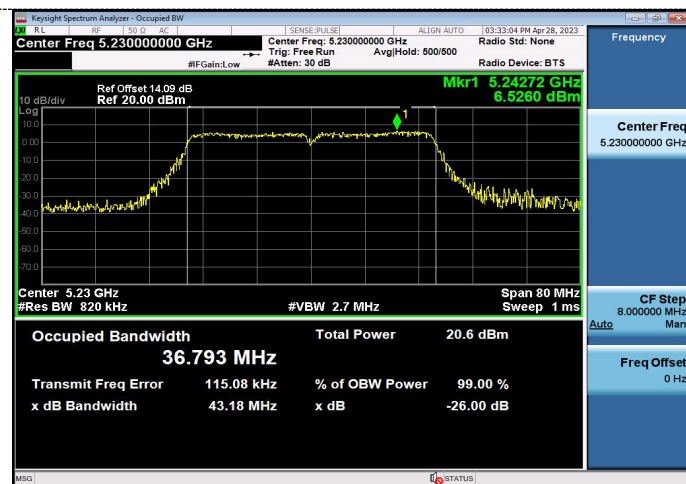
802.11ac(HT40)



802.11ac(HT80)



CH38



CH42



CH46



### 4.6 Minimum Emission Bandwidth (6dB Bandwidth)

**Limit**

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

**Test Procedure**

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth 3 x RBW.
3. Detector = Peak.
4. Trace mode = Max hold.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

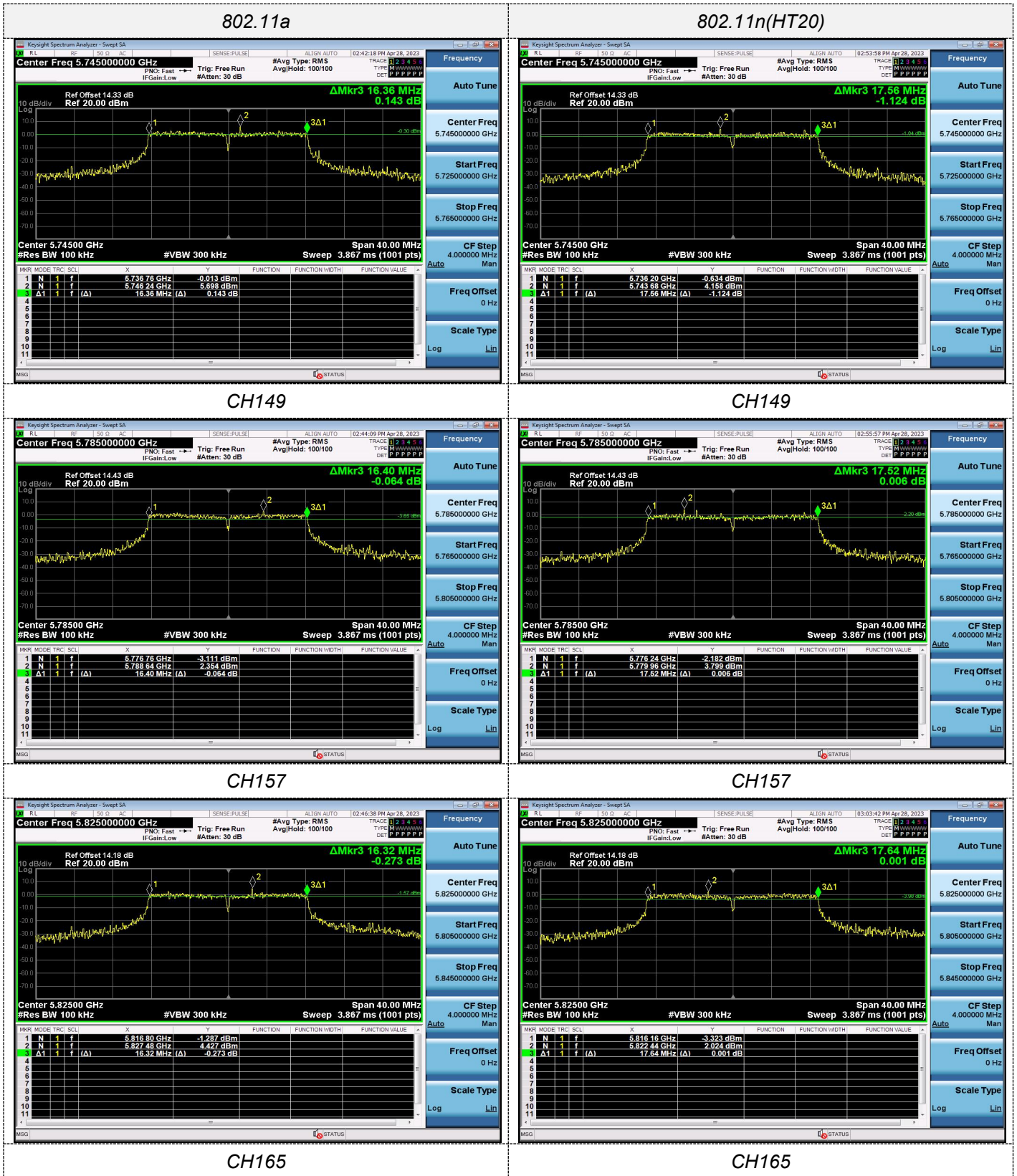
**Test Configuration**



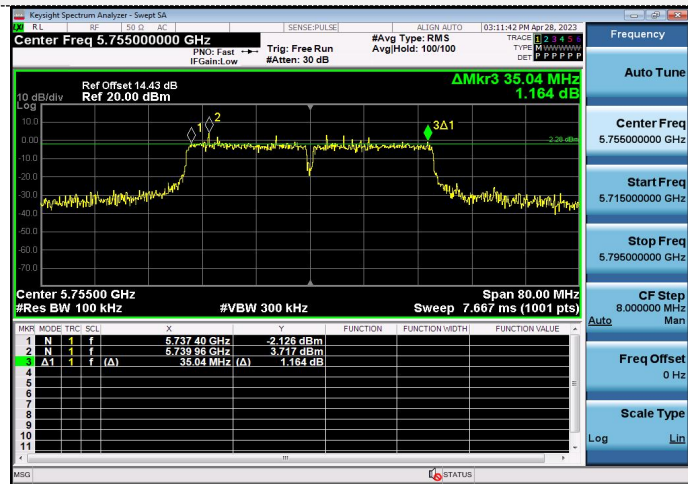
**Test Results**

Type	Bands	Channel	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	U-NII 3	149	16.360	≥500KHz	Pass
		157	16.400		
		165	16.320		
802.11n(HT20)	U-NII 3	149	17.560		
		157	17.520		
		165	17.640		
802.11n(HT40)	U-NII 3	151	35.040		
		159	35.600		
802.11ac(HT20)	U-NII 3	149	17.280		
		157	17.600		
		165	17.240		
802.11ac(HT40)	U-NII 3	151	35.840		
		159	36.320		
802.11ac(HT80)	U-NII 3	155	76.000		

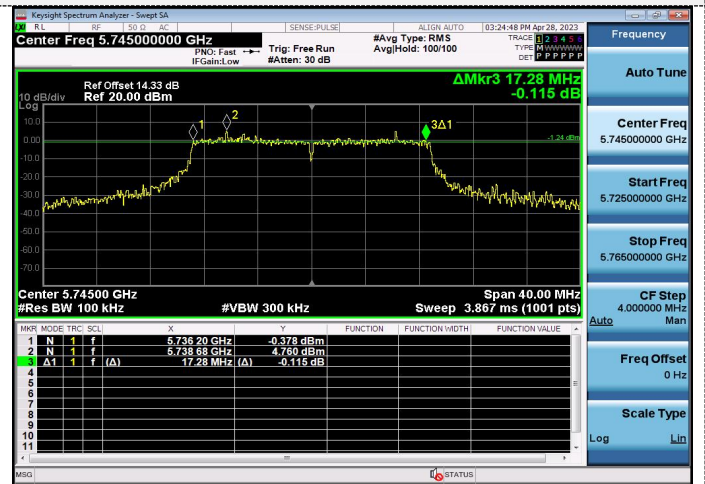
Test plot as follows:



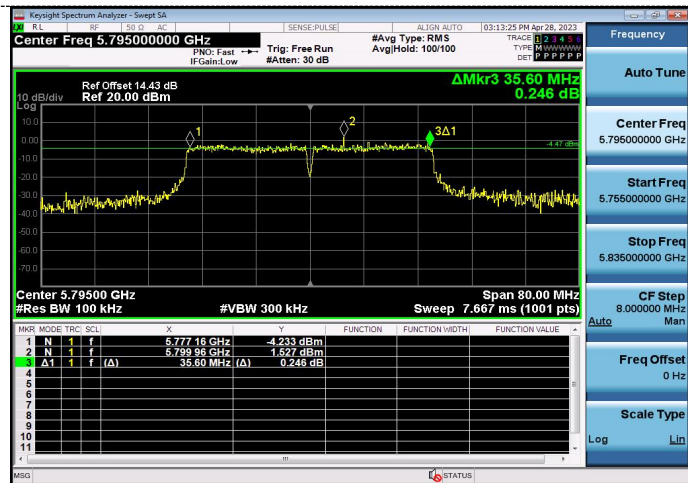
802.11n(HT40)



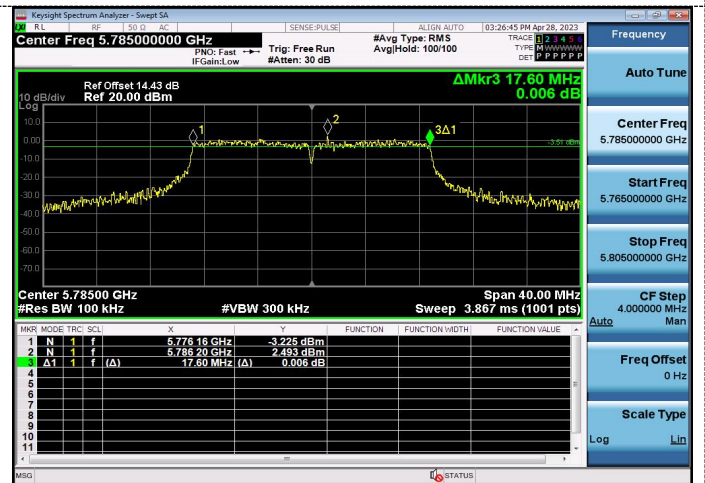
802.11ac(HT20)



CH151



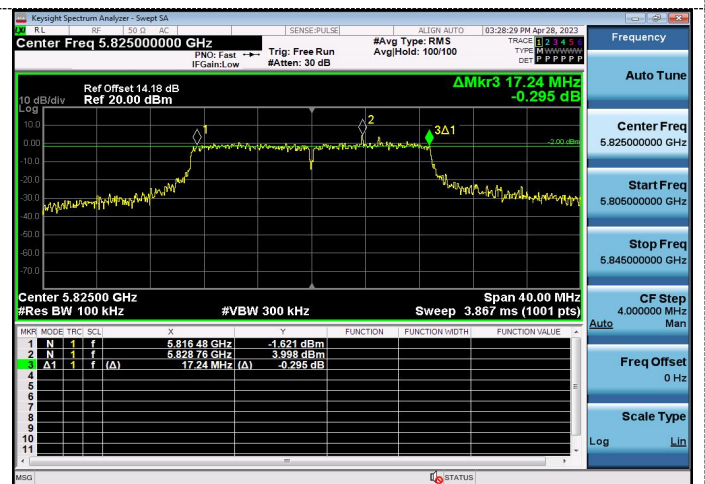
CH149



CH159



CH157



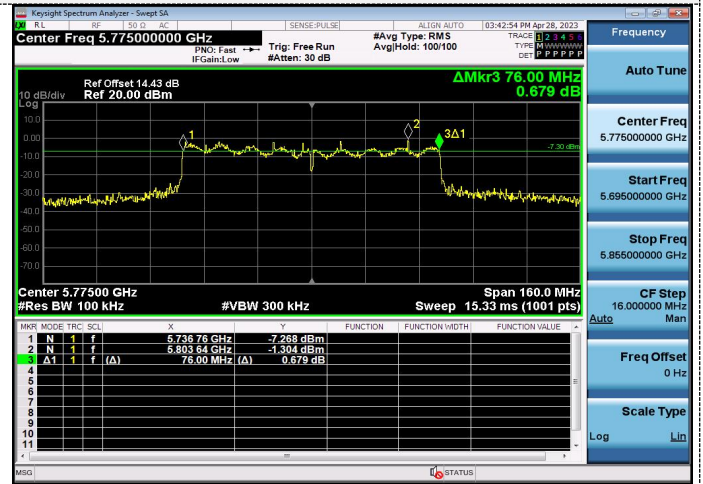
CH165

802.11ac(HT40)



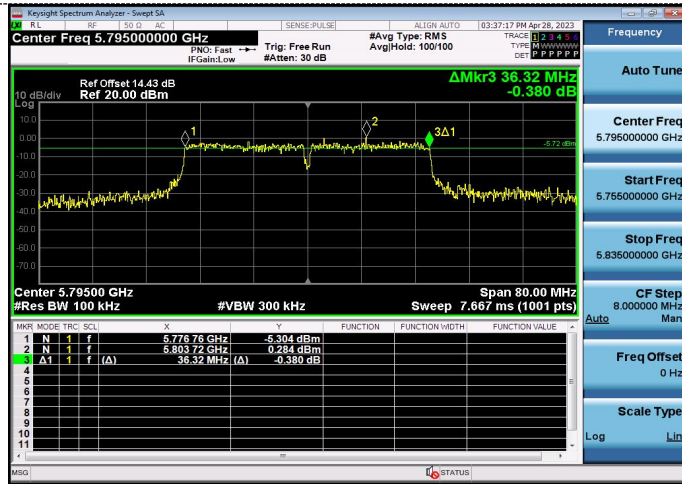
CH151

802.11ac(HT80)



CH155

CH159

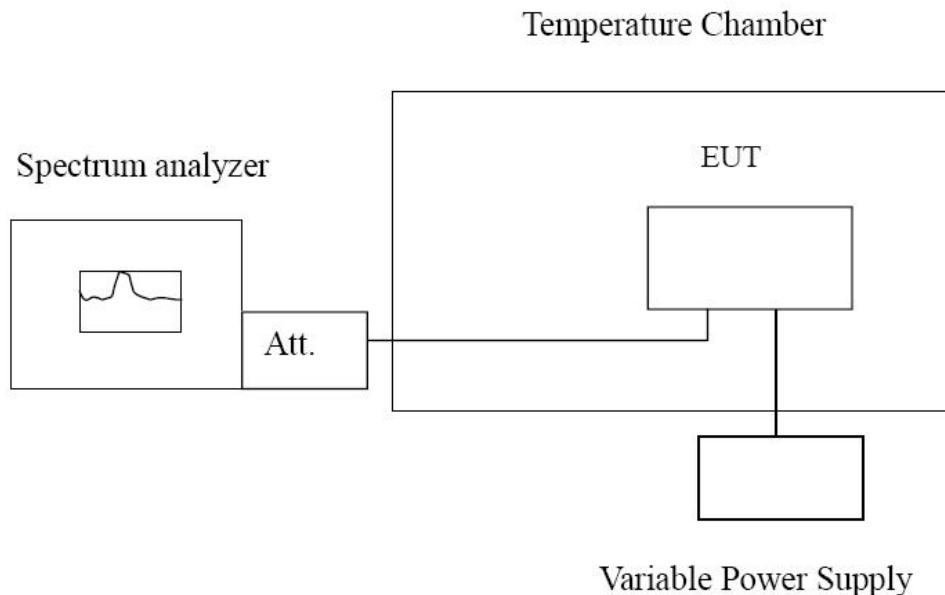


## 4.7 Frequency Stability

### LIMIT

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 users manual.

### TEST CONFIGURATION



### TEST PROCEDURE

#### **Frequency Stability under Temperature Variations:**

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

#### **Frequency Stability under Voltage Variations:**

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ( $\pm 15\%$ ) and endpoint, record the maximum frequency change.

### TEST RESULTS

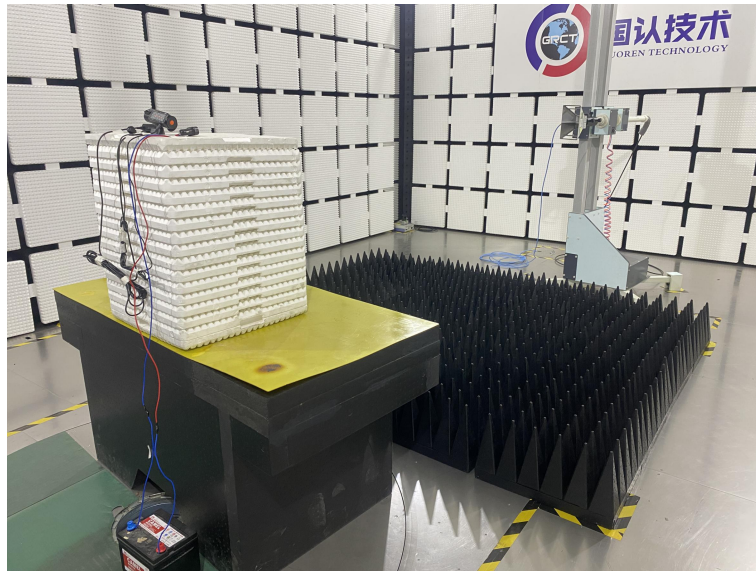
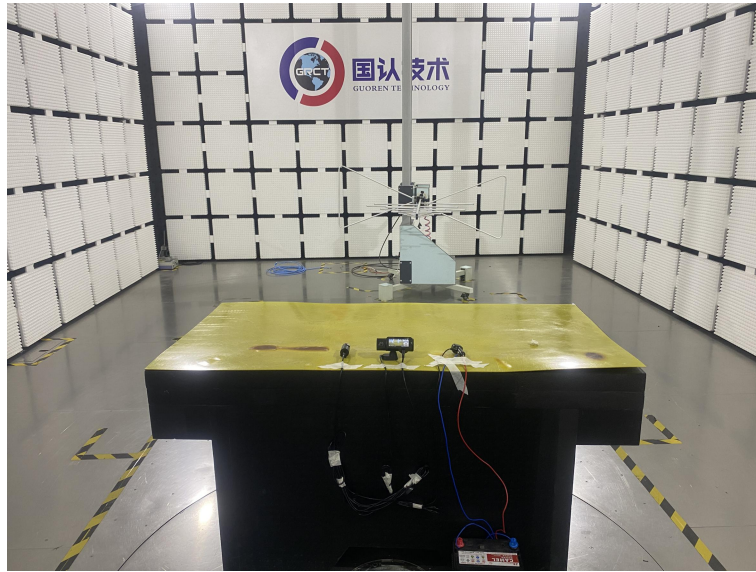
Record worst case as below:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage ( V )	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
12.00	-30	136.57	0.0264	Within the band of operation	Pass
	-20	128.91	0.0249		
	-10	139.42	0.0269		
	0	141.16	0.0273		
	10	125.34	0.0242		
	20	118.73	0.0229		
	30	128.55	0.0248		
	40	135.42	0.0261		
50	144.85	0.0280			
13.2	25	137.94	0.0266		
10.8	25	136.85	0.0264		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage ( V )	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
12.00	-30	128.41	0.0224	Within the band of operation	Pass
	-20	120.62	0.0210		
	-10	137.68	0.0240		
	0	133.49	0.0232		
	10	145.81	0.0254		
	20	144.35	0.0251		
	30	135.47	0.0236		
	40	125.18	0.0218		
	50	122.47	0.0213		
13.2	25	133.46	0.0232		
10.8	25	141.57	0.0246		



## 5 Test Setup Photos of the EUT



## 6 EXTERNAL Photos of the EUT

Please refer to separated files for External Photos of the EUT.

## 7 Internal Photos of the EUT

Please refer to separated files for Internal Photos of the EUT.

\*\*\*\*\* End of Report \*\*\*\*\*