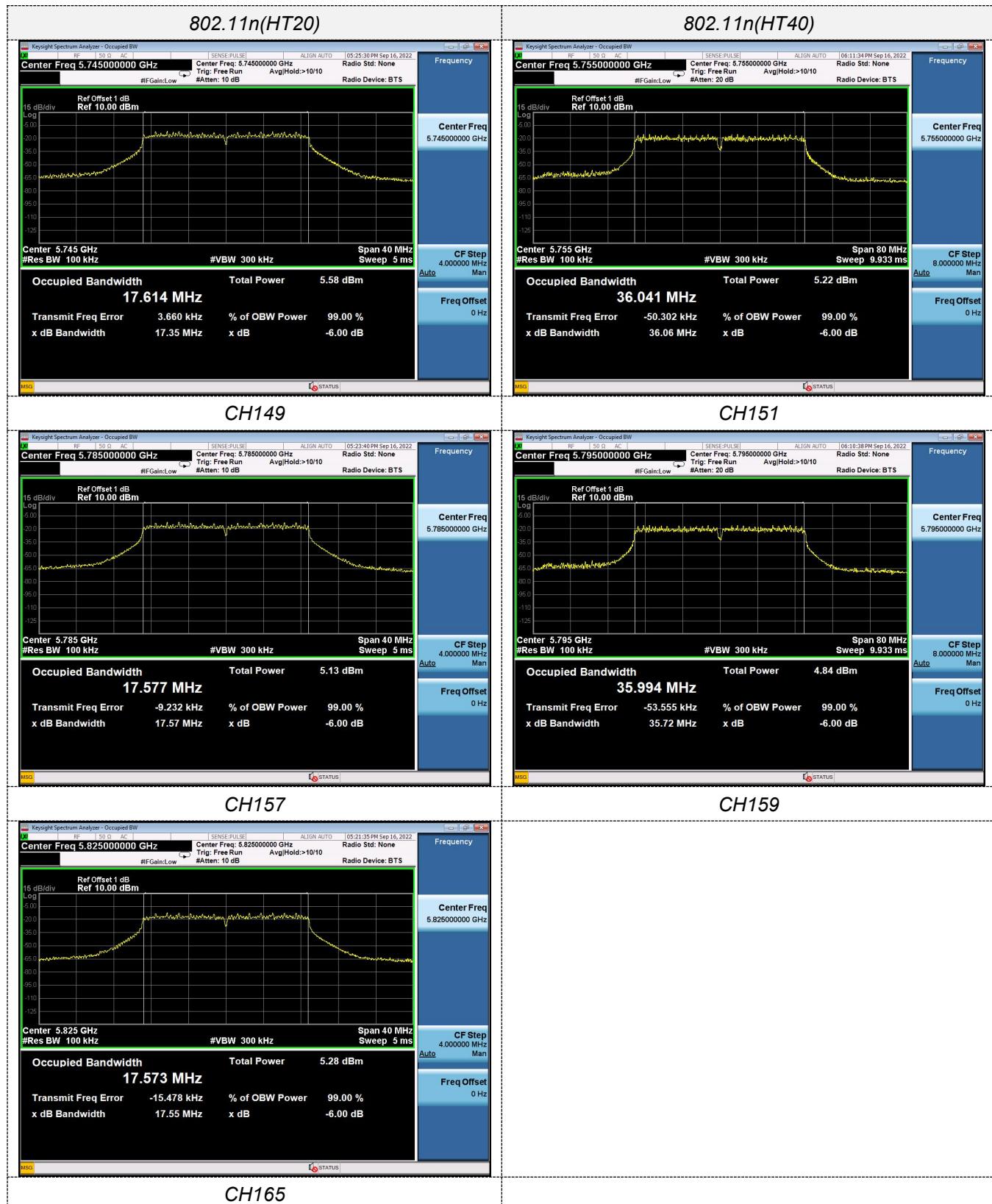


Test plot as follows:



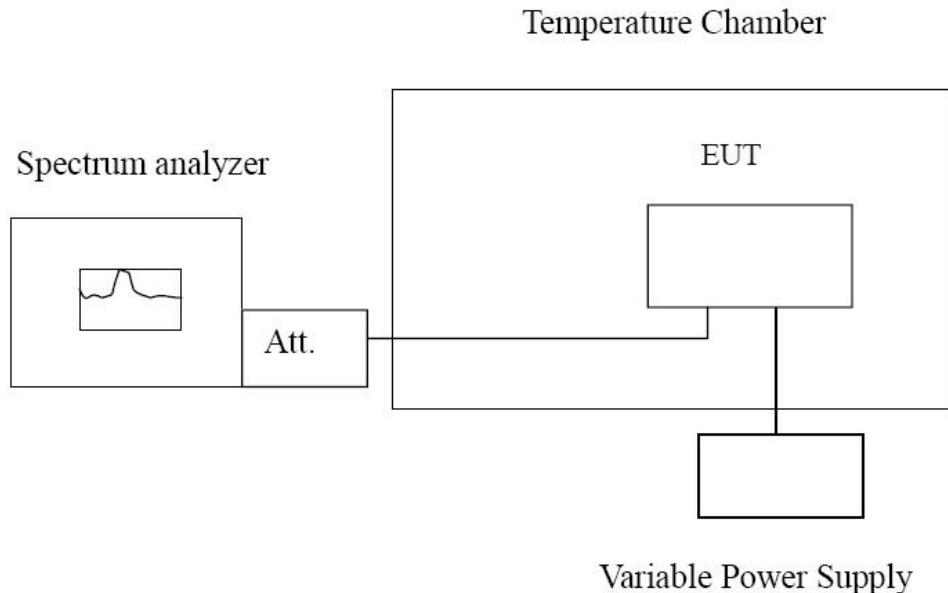


## 4.7 Frequency Stability

### 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.

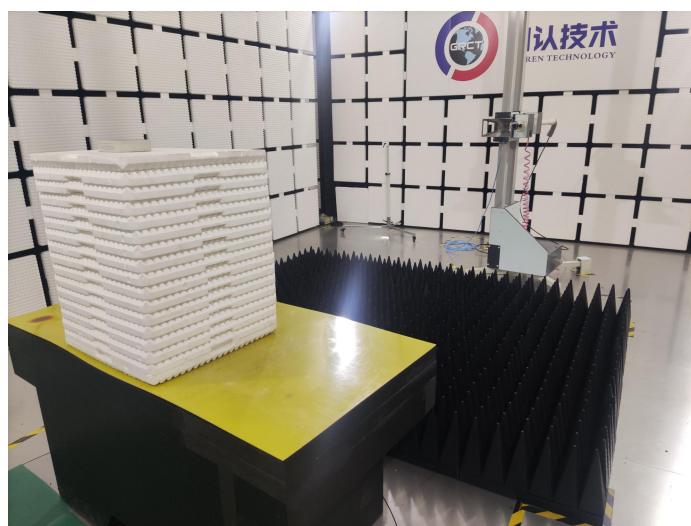
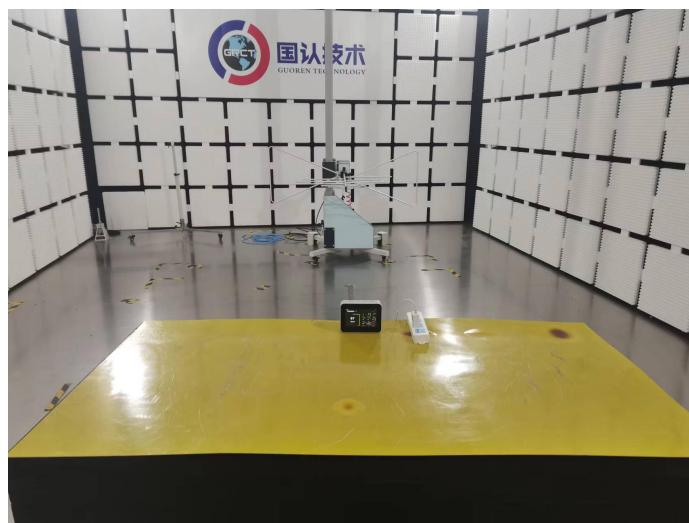
### TEST RESULTS

Record worst case as below:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
5.00	-30	175.43	0.03387	Within the band of operation	Pass
	-20	158.26	0.03055		
	-10	146.72	0.02832		
	0	138.45	0.02673		
	10	129.71	0.02504		
	20	132.46	0.02557		
	30	128.69	0.02484		
	40	118.27	0.02283		
	50	148.93	0.02875		
	5.5	145.27	0.02804		
4.5	25	138.19	0.02668		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
5.0	-30	164.25	0.02859	Within the band of operation	Pass
	-20	173.81	0.03025		
	-10	152.94	0.02662		
	0	147.21	0.02562		
	10	136.49	0.02376		
	20	135.83	0.02364		
	30	127.58	0.02221		
	40	122.46	0.02132		
	50	139.43	0.02427		
	5.5	135.16	0.02353		
4.5	25	144.74	0.02519		

## 5 Test Setup Photos of the EUT



## **6 Photos of the EUT**

Reference to the test report No. **GRCTR220802025-01**.

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