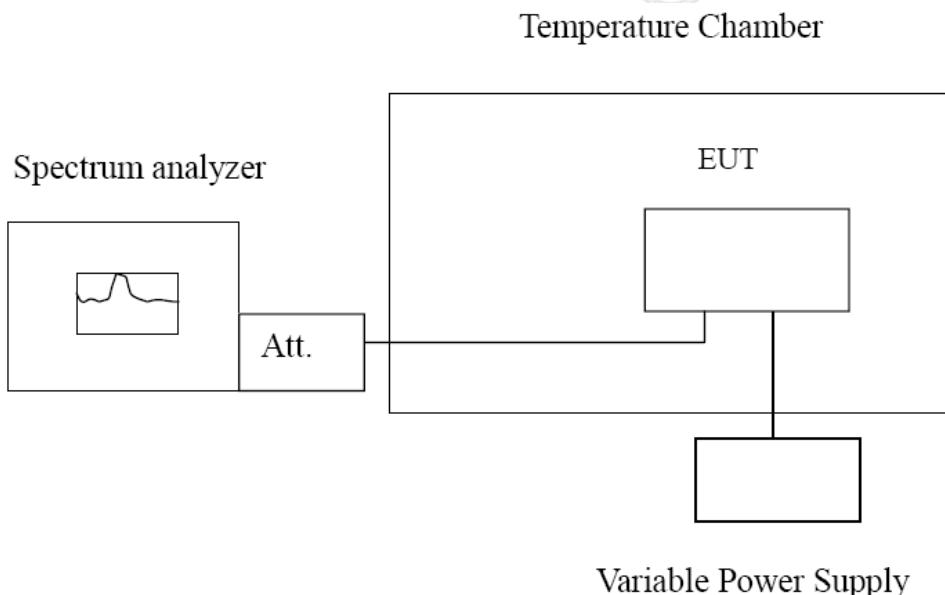


4.7 Frequency Stability

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		
DC 12.0	-30	110.63	0.021357	Within the band of operation	Pass
	-20	174.47	0.033681		
	-10	145.60	0.028108		
	0	146.65	0.028311		
	10	146.13	0.028210		
	20	99.61	0.019230		
	30	167.36	0.032309		
	40	129.57	0.025014		
	50	128.69	0.024844		
	DC 13.2	25	195.83		
DC 10.8	25	118.75	0.022925		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
DC 3.70	-30	135.95	0.023664	Within the band of operation	Pass
	-20	129.51	0.022543		
	-10	167.16	0.029097		
	0	169.48	0.029500		
	10	136.51	0.023762		
	20	144.80	0.025205		
	30	116.71	0.020315		
	40	168.53	0.029335		
	50	160.52	0.027941		
	DC 4.20	25	150.80		
DC 3.40	25	129.94	0.022618		

5 Test Setup Photos of the EUT



6 Photos of the EUT

Reference to the test report No. CTA24061702401.

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