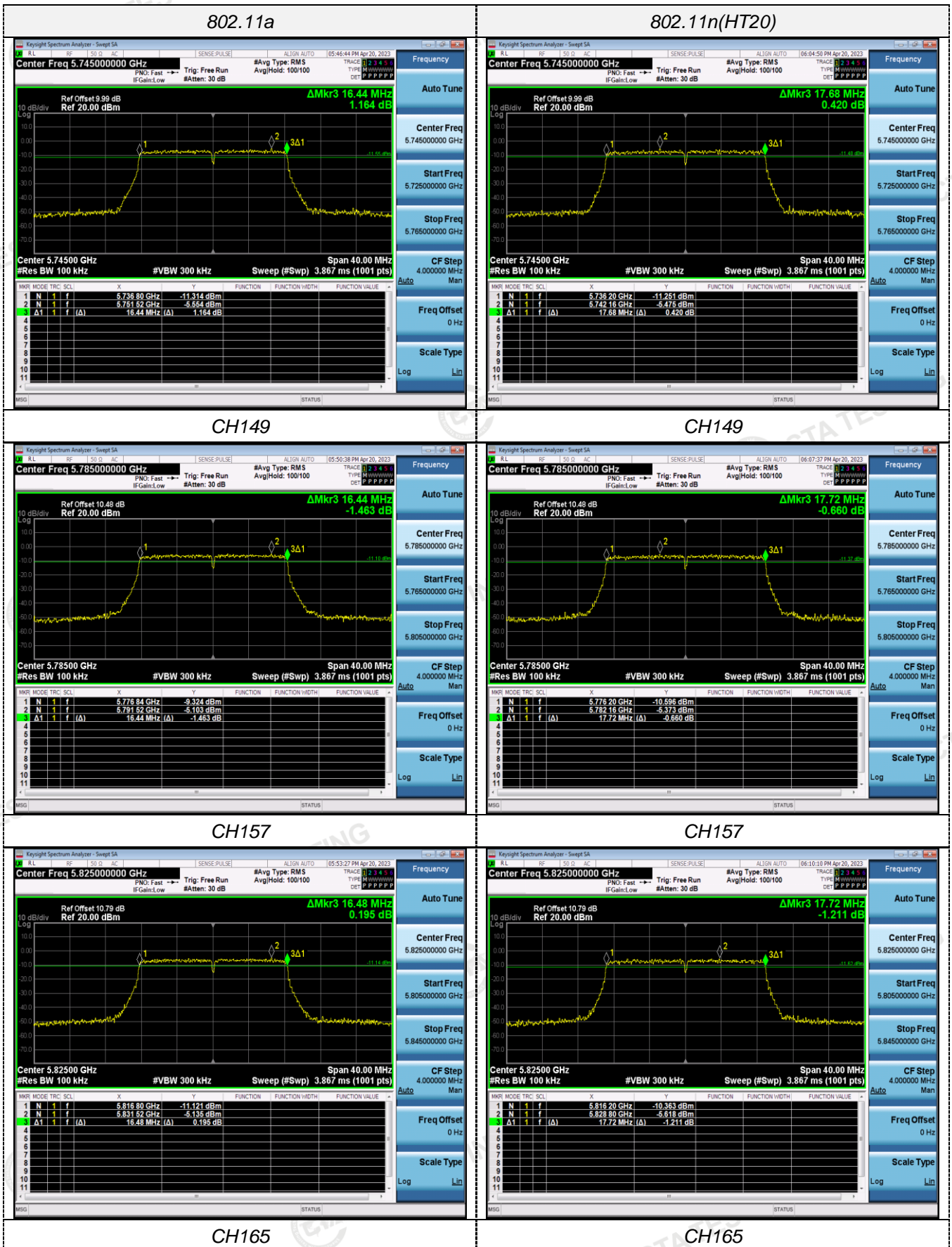
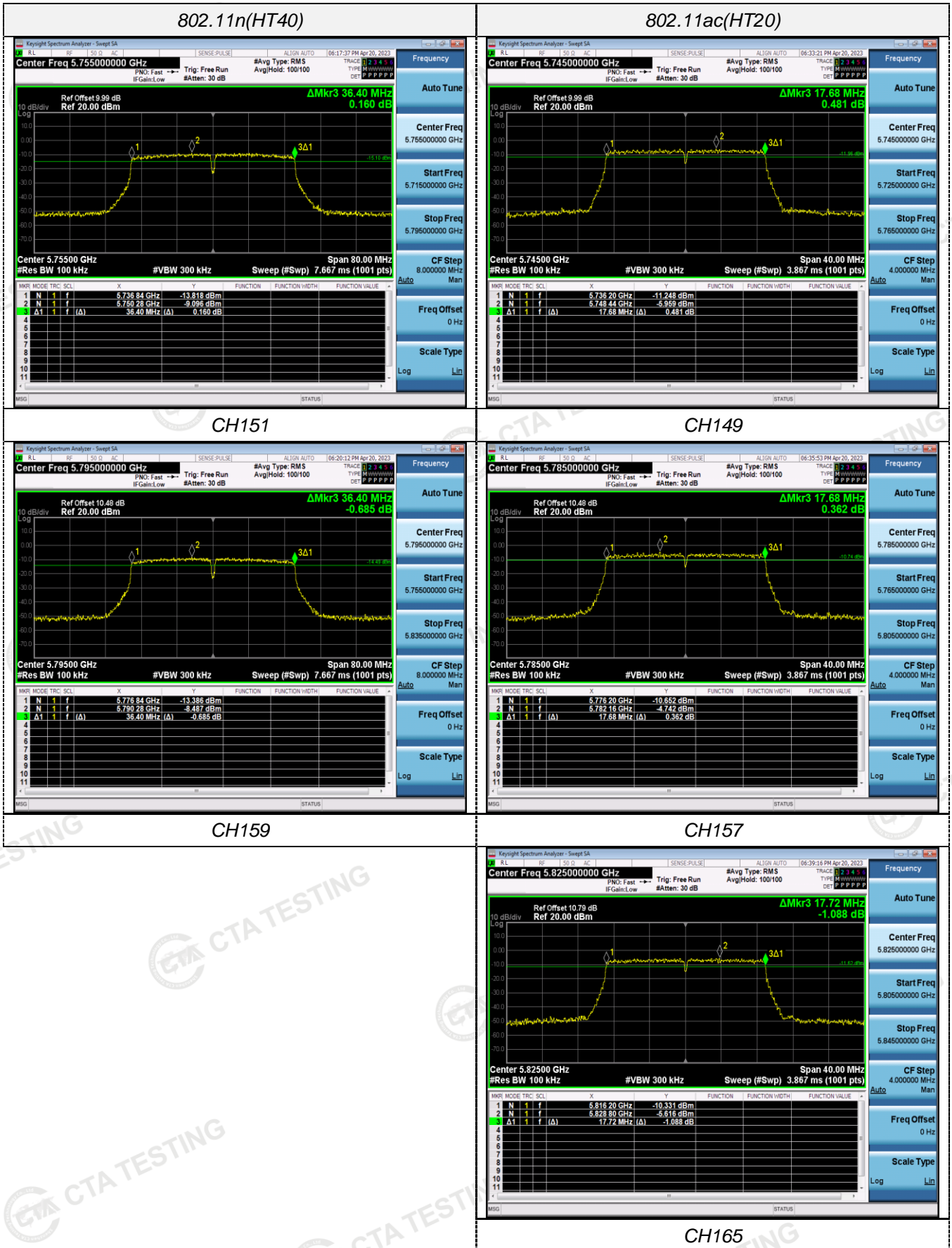


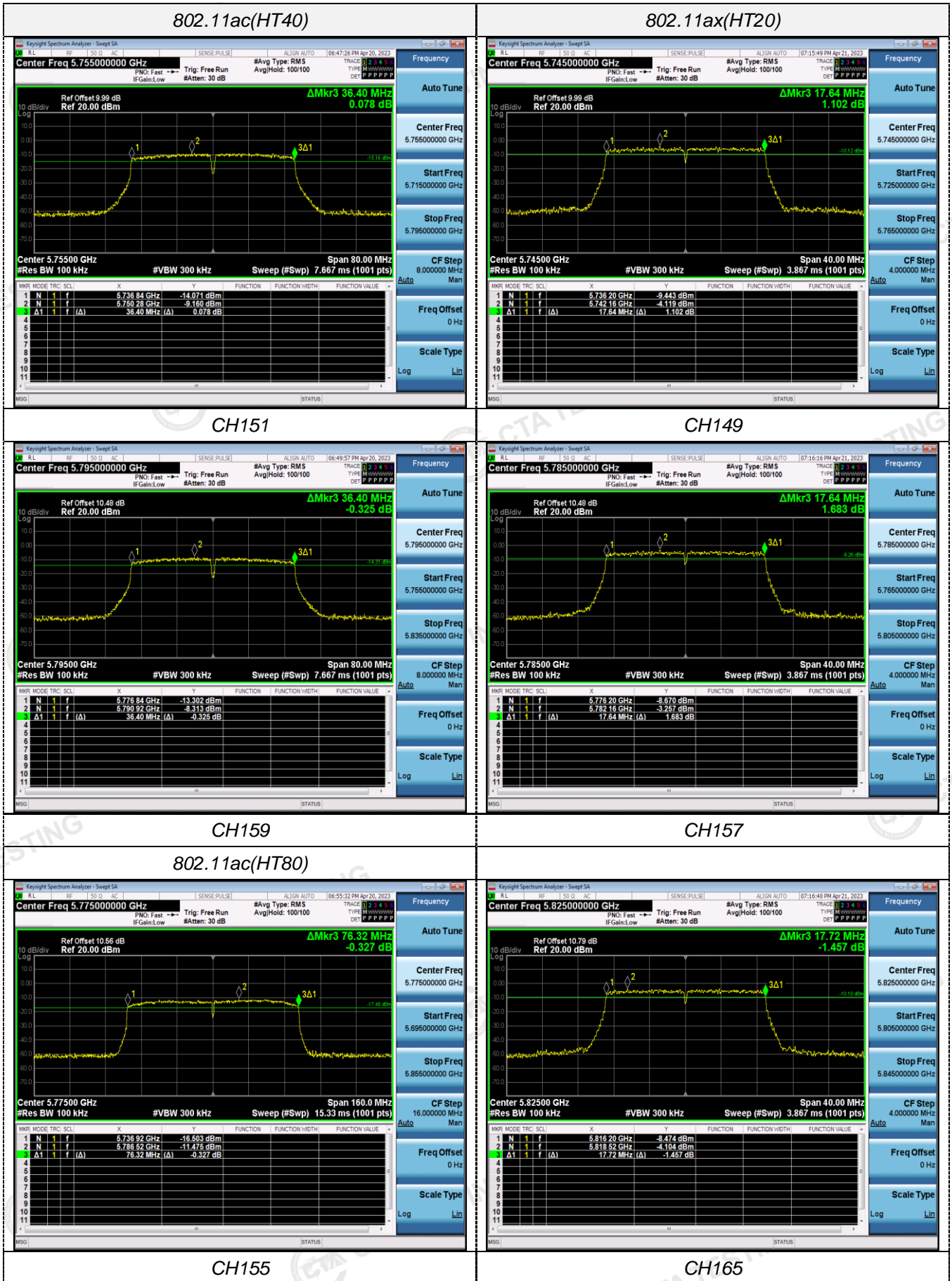
CH156

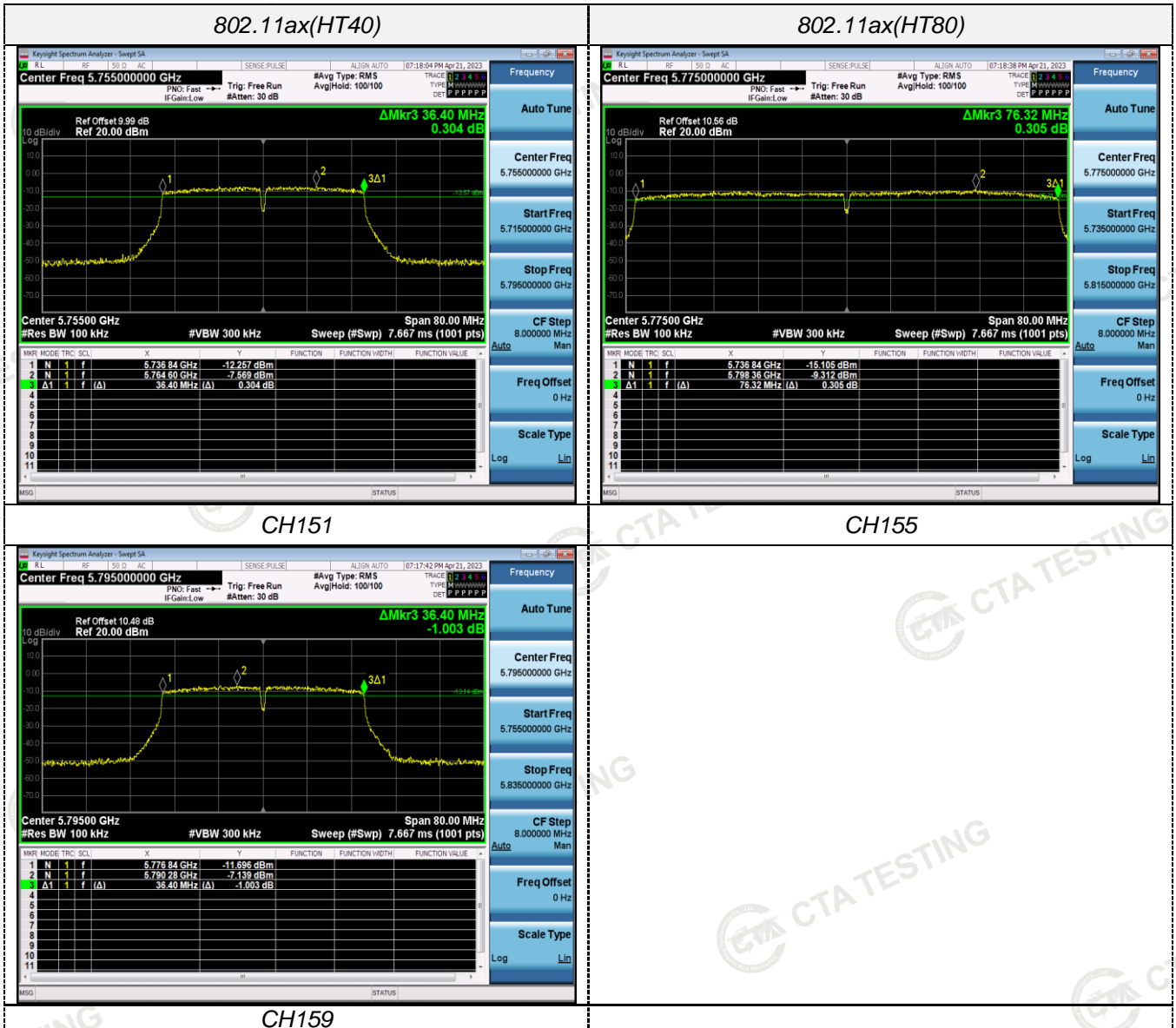
CH155

ANT 2







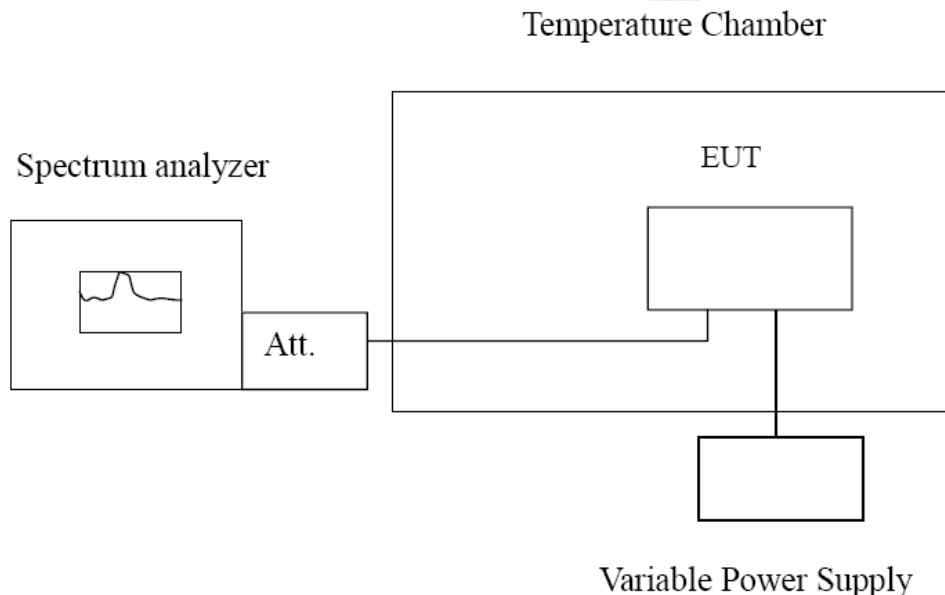


4.7 Frequency Stability

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:

Ant1:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
DC 12.0V	-30	112.74	0.021764	Within the band of operation	Pass
	-20	171.23	0.033056		
	-10	138.45	0.026728		
	0	112.76	0.021768		
	10	142.20	0.027452		
	20	99.37	0.019183		
	30	164.18	0.031695		
	40	127.65	0.024643		
DC 13.2V	25	192.95	0.037249		
DC 10.8V	25	114.42	0.022089		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
DC 12.0V	-30	135.21	0.023535	Within the band of operation	Pass
	-20	128.75	0.022411		
	-10	165.43	0.028795		
	0	166.72	0.029020		
	10	133.38	0.023217		
	20	127.94	0.022270		
	30	112.35	0.019556		
	40	168.74	0.029372		
DC 13.2V	25	148.78	0.025897		
DC 10.8V	25	115.30	0.020070		

Ant2:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
DC 12.0V	-30	112.15	0.021651	Within the band of operation	Pass
	-20	170.74	0.032961		
	-10	138.69	0.026774		
	0	112.42	0.021703		
	10	143.97	0.027793		
	20	95.65	0.018465		
	30	164.85	0.031824		
	40	126.44	0.024409		
50	126.39	0.024400			
DC 13.2V	25	192.76	0.037212		
DC 10.8V	25	115.64	0.022324		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
DC 12.0V	-30	136.60	0.023777	Within the band of operation	Pass
	-20	129.43	0.022529		
	-10	167.58	0.029170		
	0	168.16	0.029271		
	10	136.75	0.023803		
	20	143.96	0.025058		
	30	116.20	0.020226		
	40	168.39	0.029311		
50	160.45	0.027929			
DC 13.2V	25	149.63	0.026045		
DC 10.8V	25	116.86	0.020341		

5 Test Setup Photos of the EUT



6 Photos of the EUT

Reference to the test report No. **CTA23032801301**

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