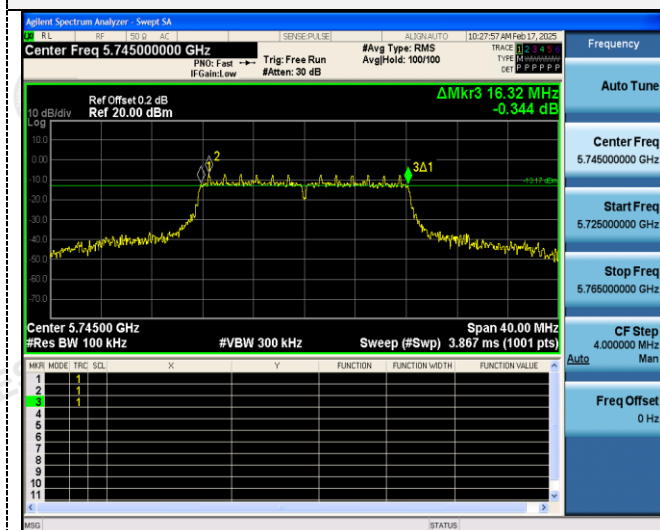
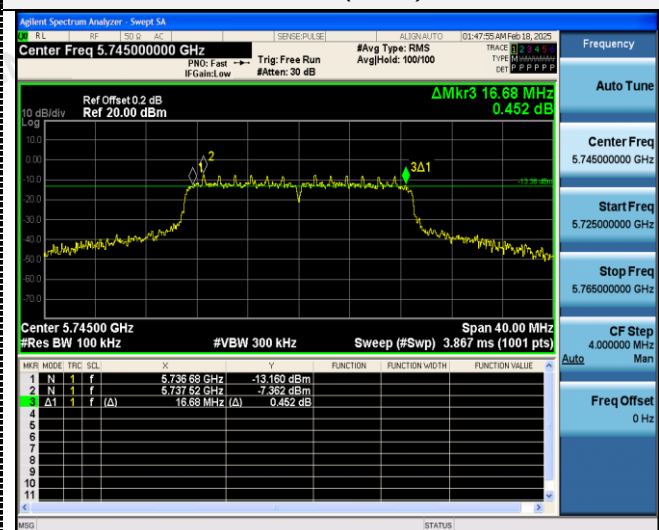


ANT 1

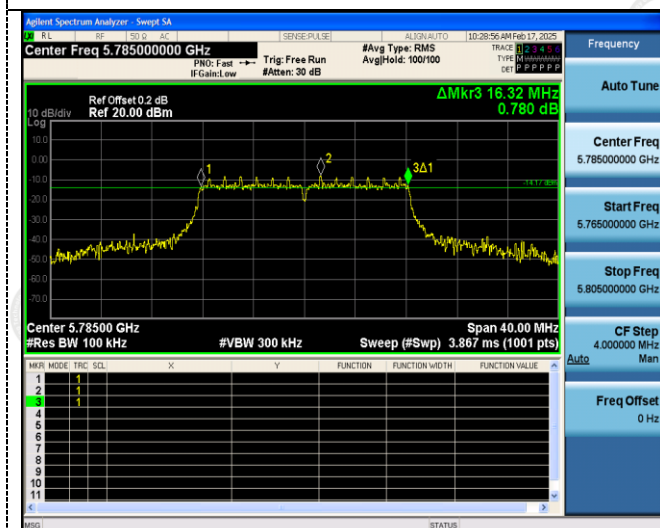
802.11a



802.11n(HT20)



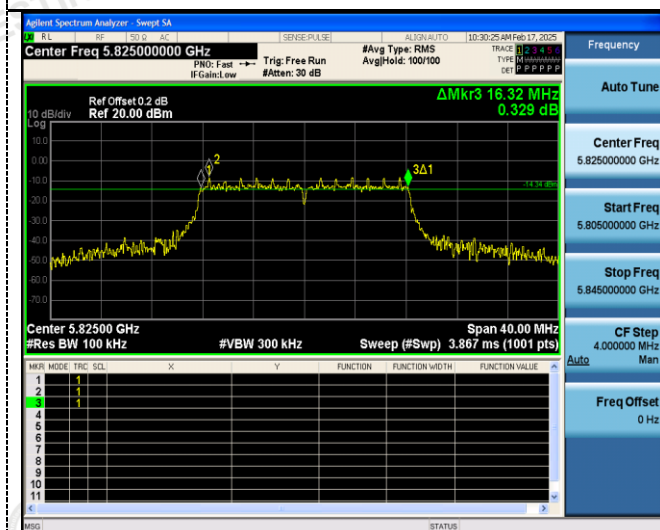
CH149



CH149



CH157



CH157



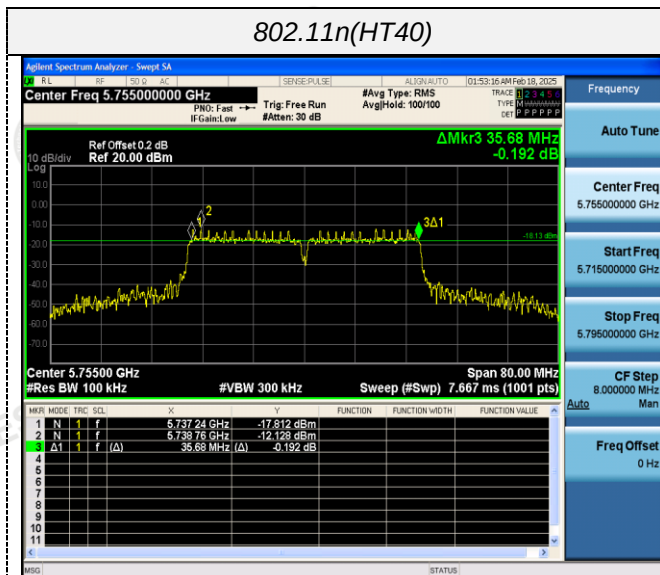
CH165



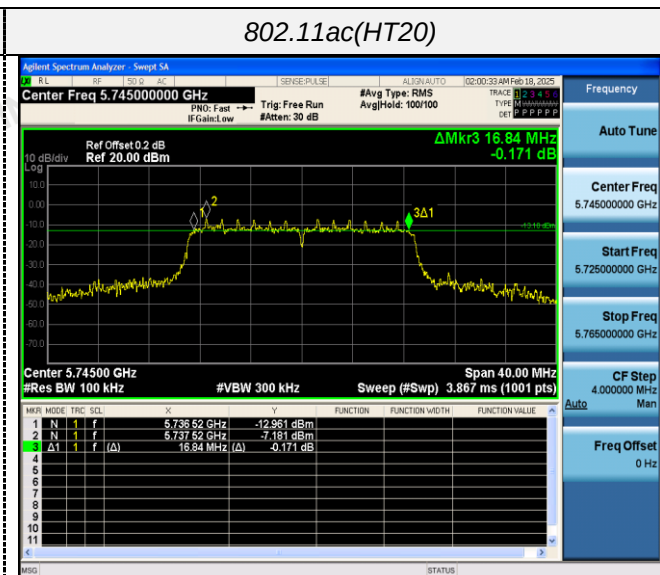
CH165



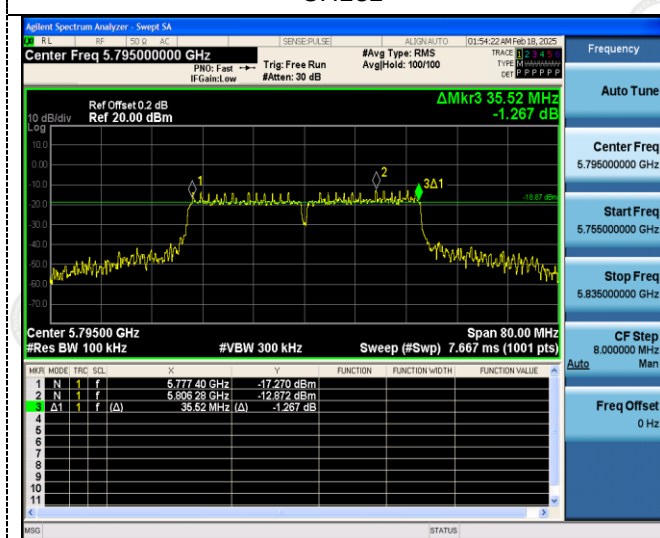
802.11n(HT40)



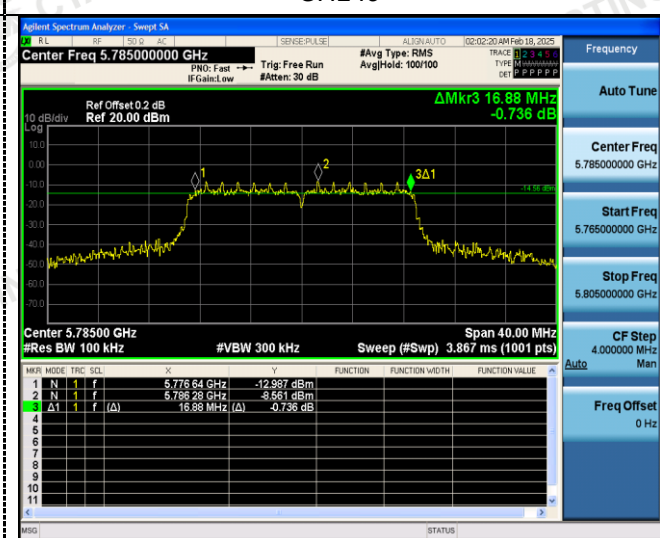
802.11ac(HT20)



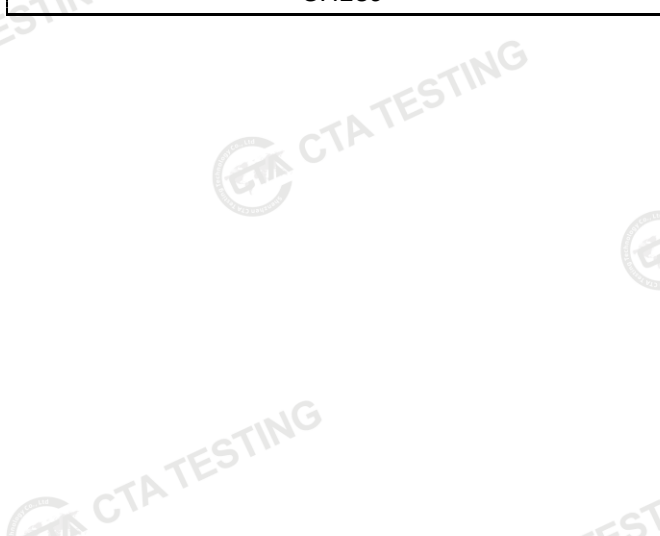
CH151



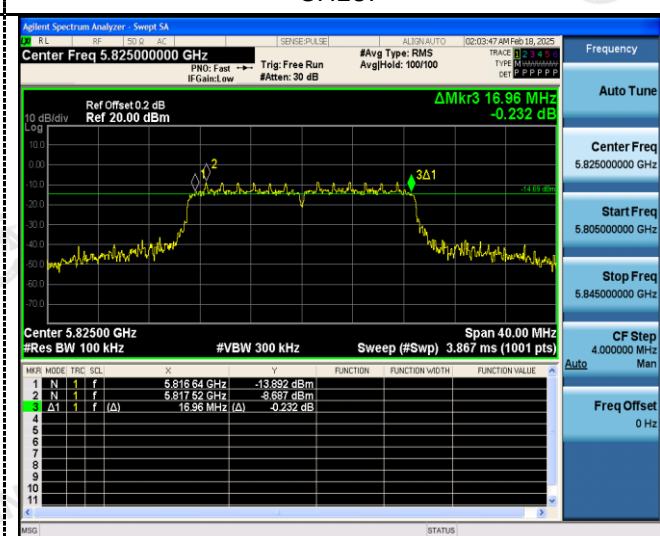
CH149



CH159

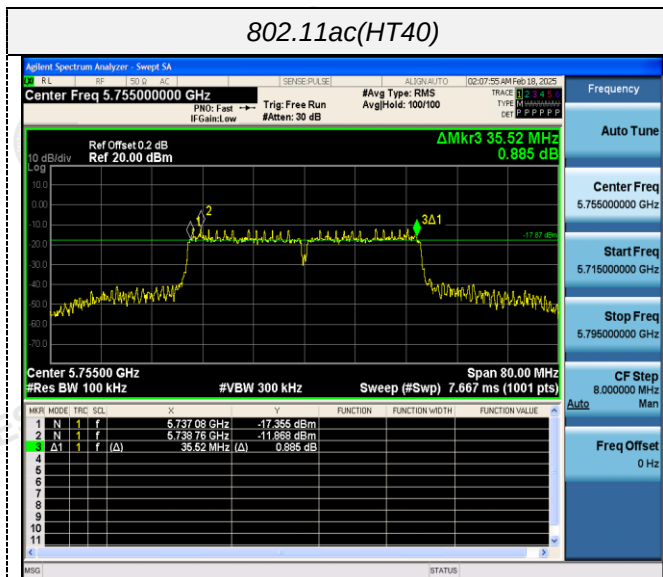


CH157

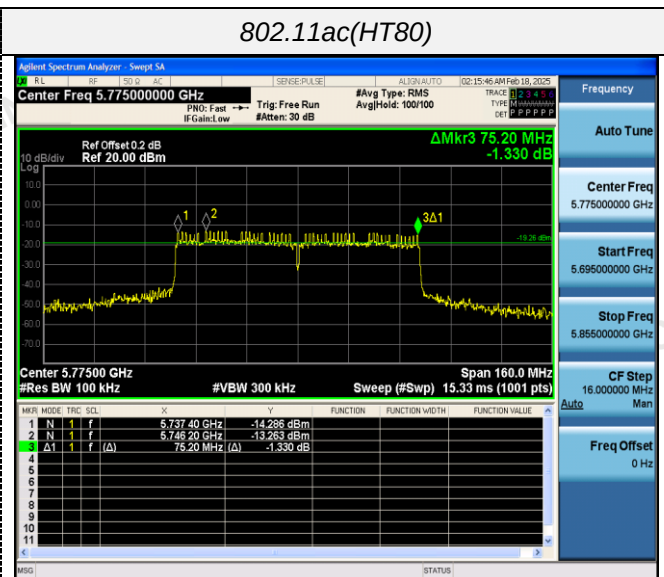


CH165

802.11ac(HT40)



802.11ac(HT80)



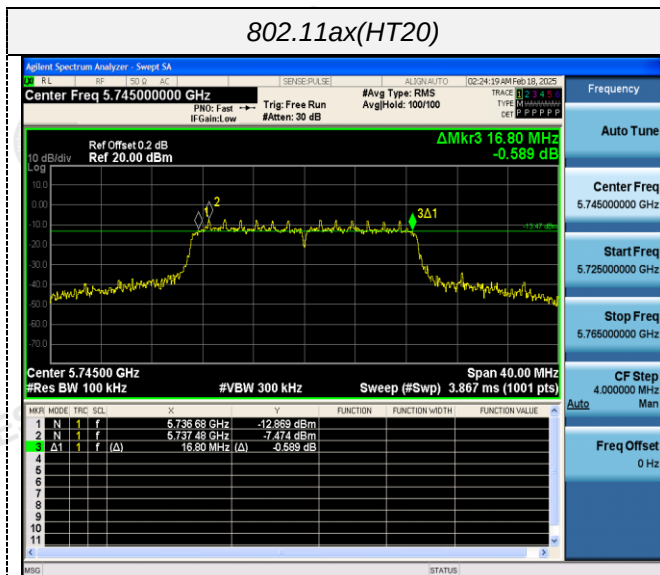
CH151



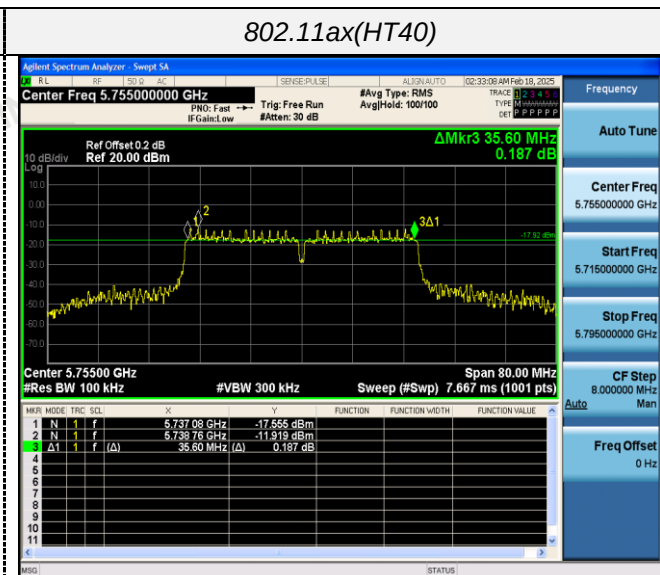
CH159

CH155

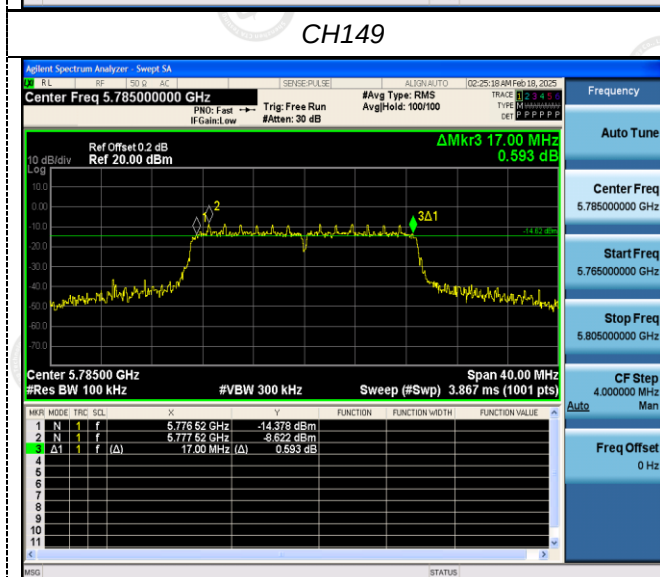
802.11ax(HT20)



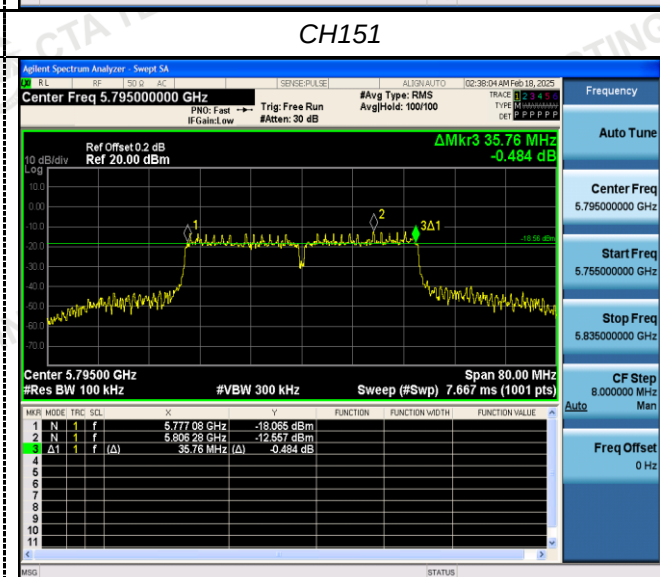
802.11ax(HT40)



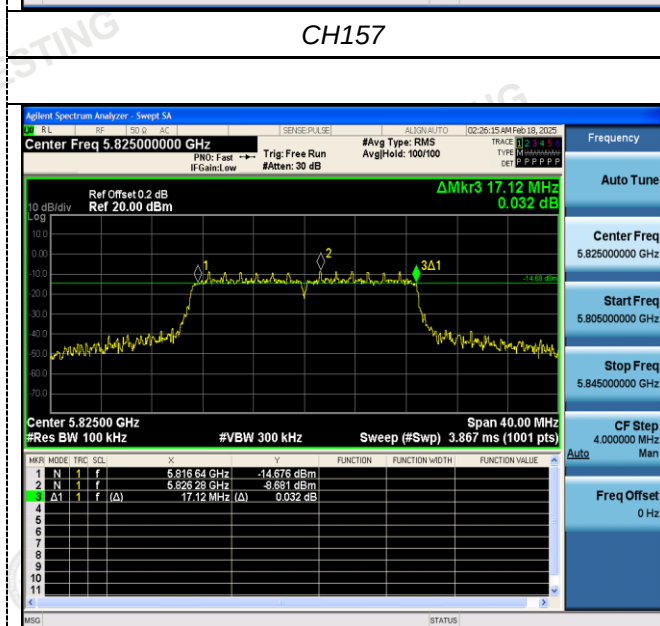
CH149



CH151



CH157



CH159

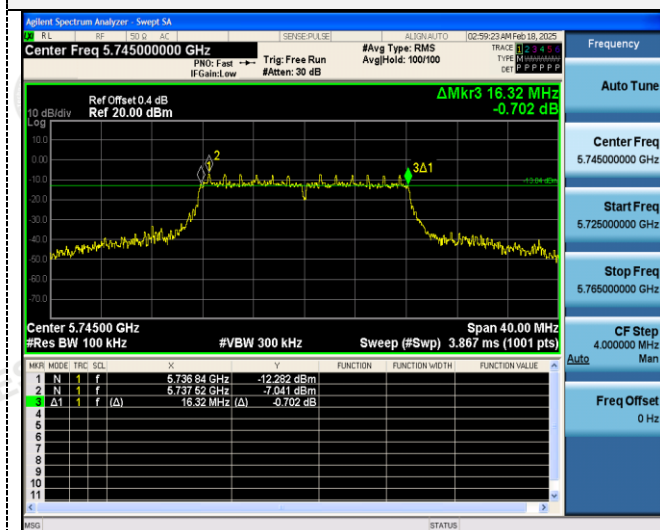


CH156

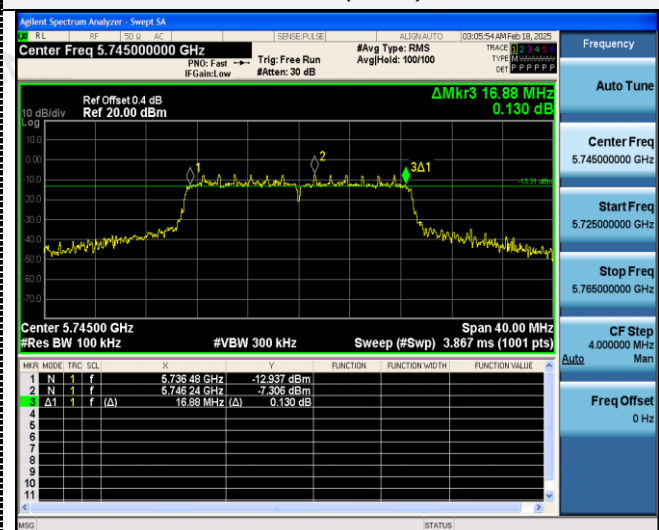
CH155

ANT 2

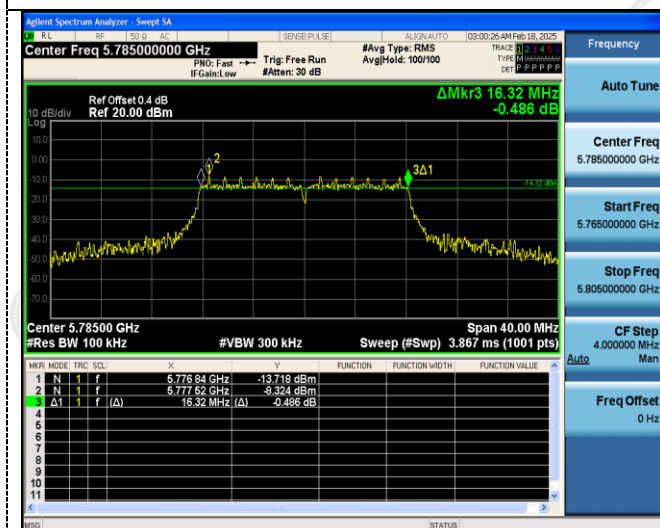
802.11a



802.11n(HT20)



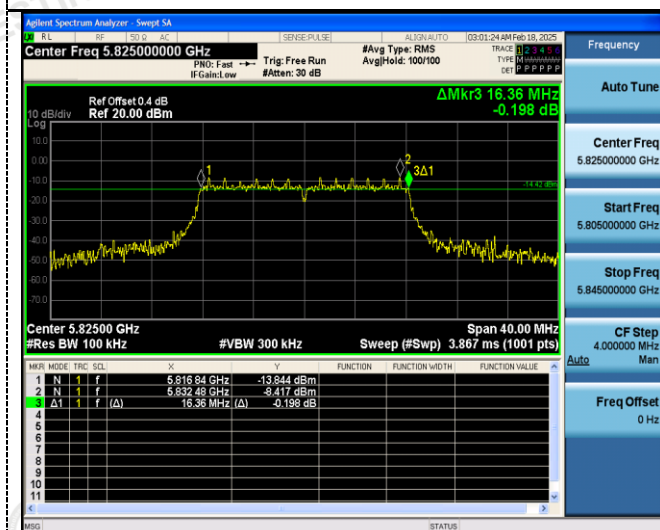
CH149



CH149



CH157



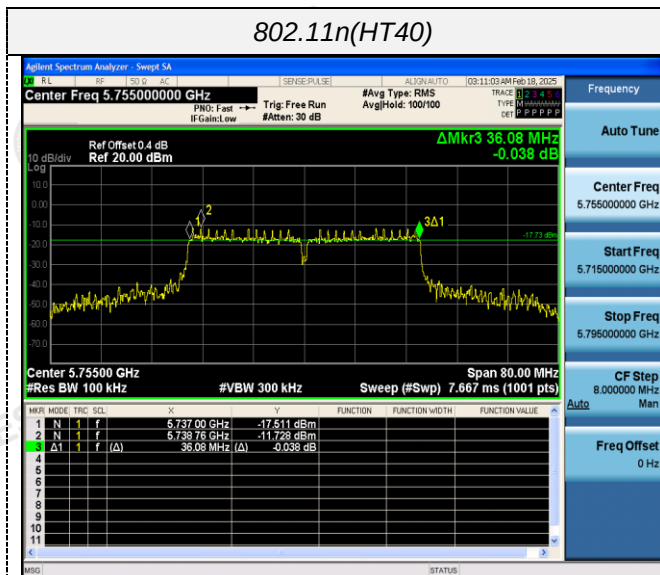
CH157



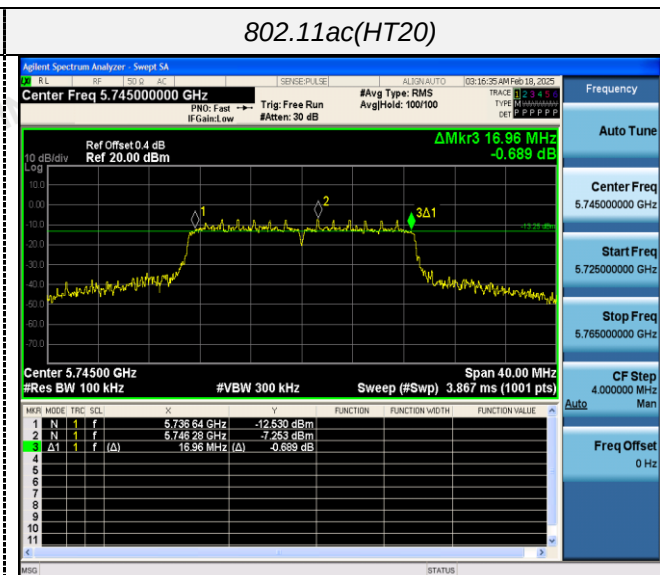
CH165

CH165

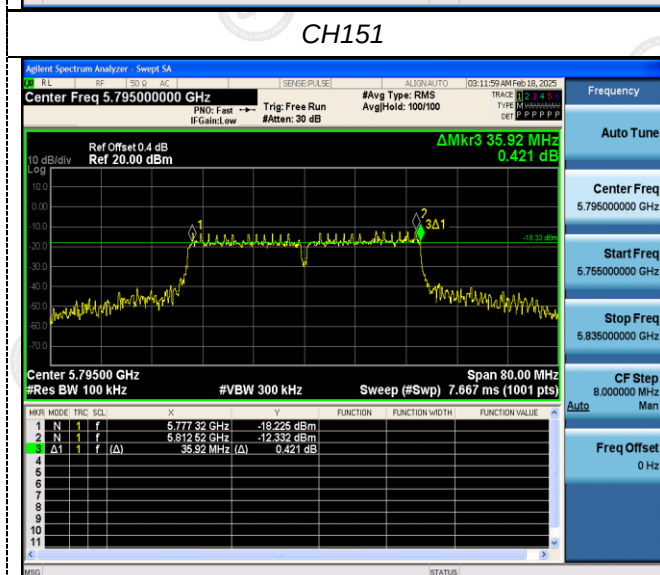
802.11n(HT40)



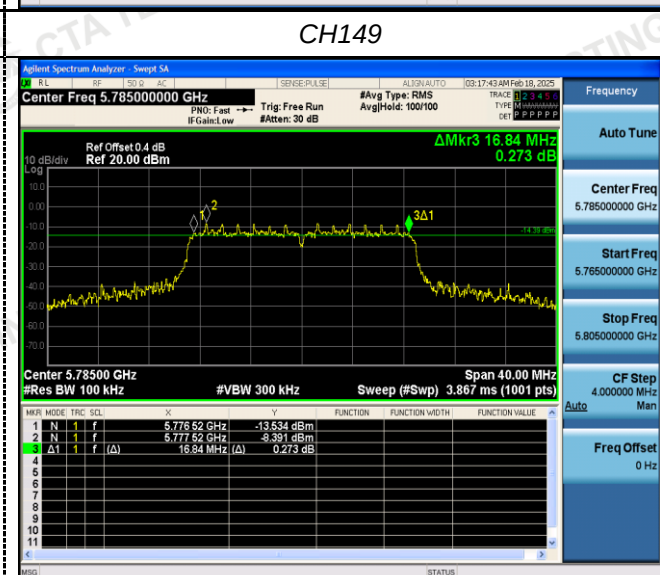
802.11ac(HT20)



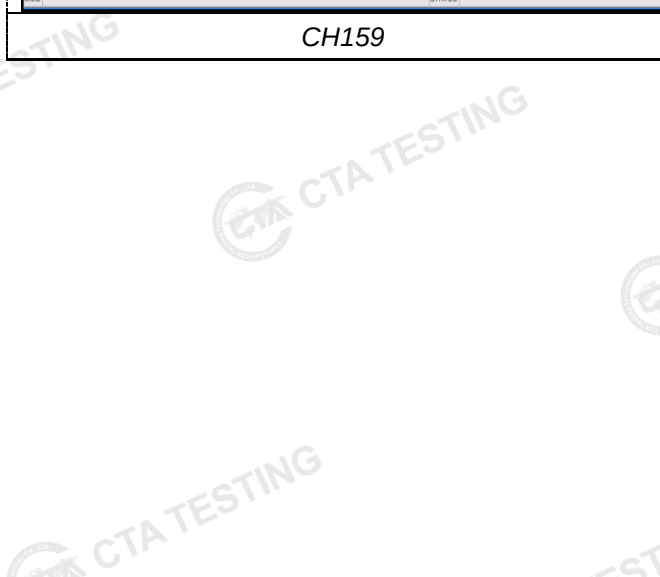
CH151



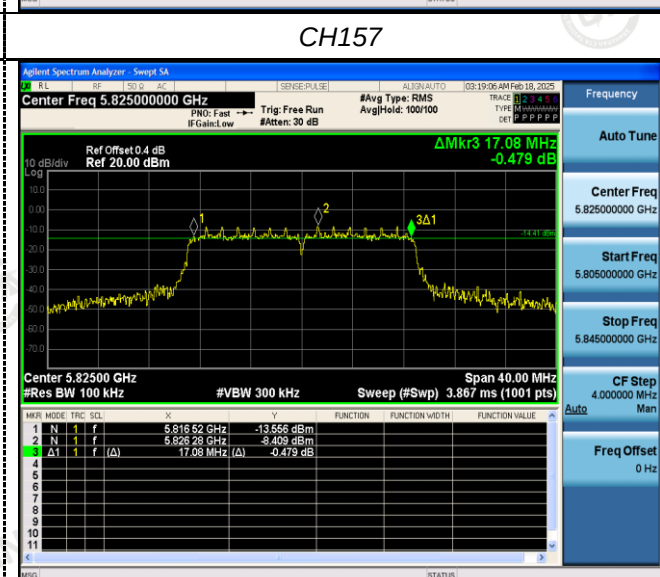
CH149



CH159

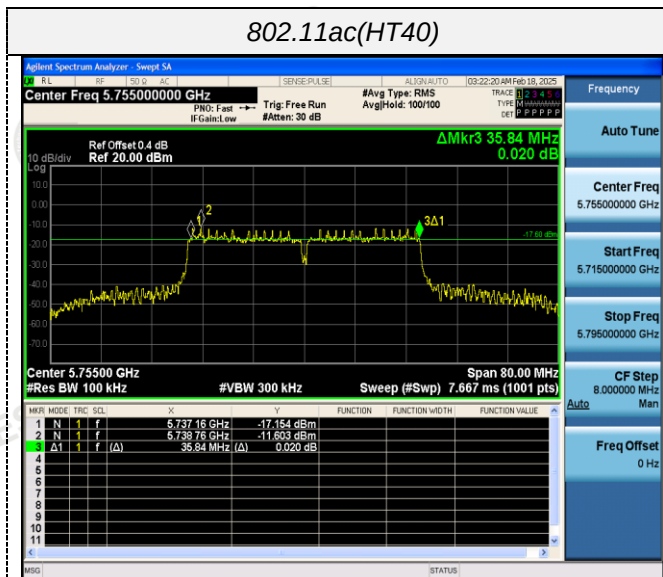


CH157

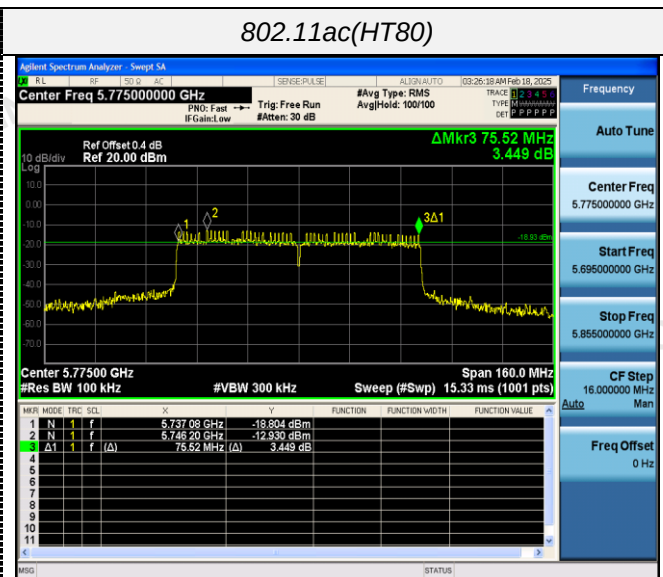


CH165

802.11ac(HT40)



802.11ac(HT80)



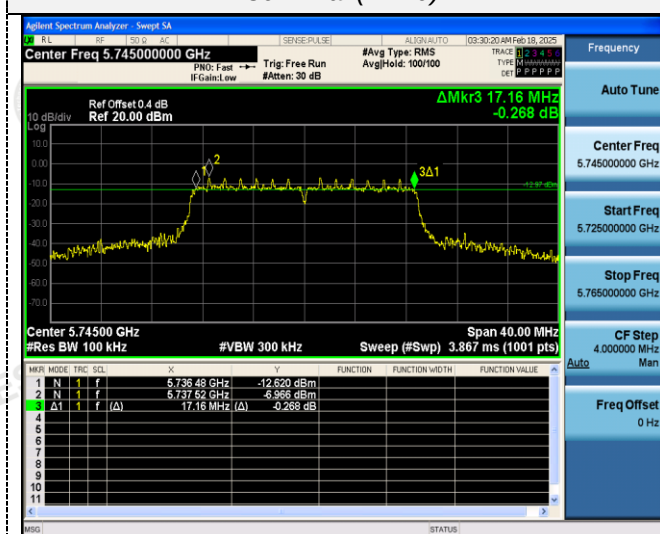
CH151



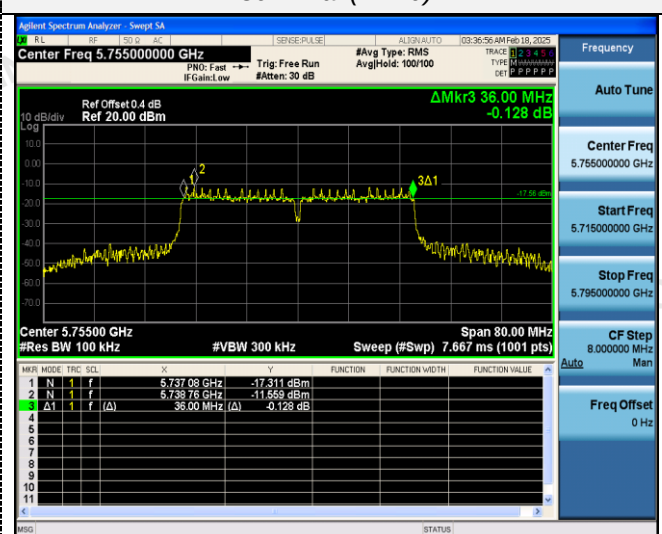
CH159

CH155

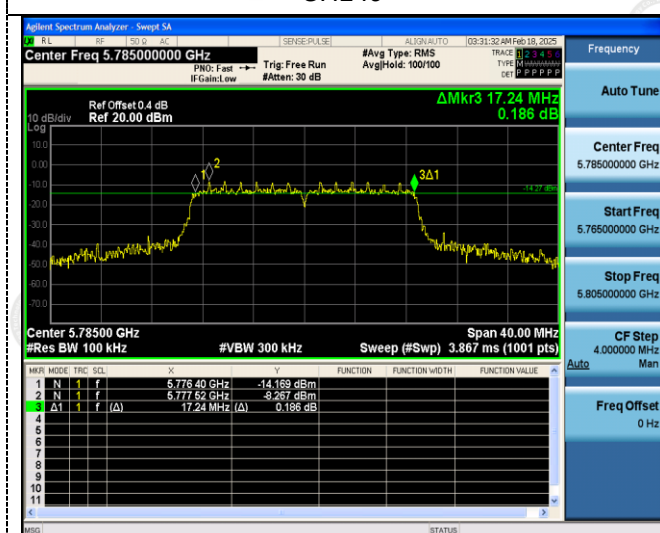
802.11ax(HT20)



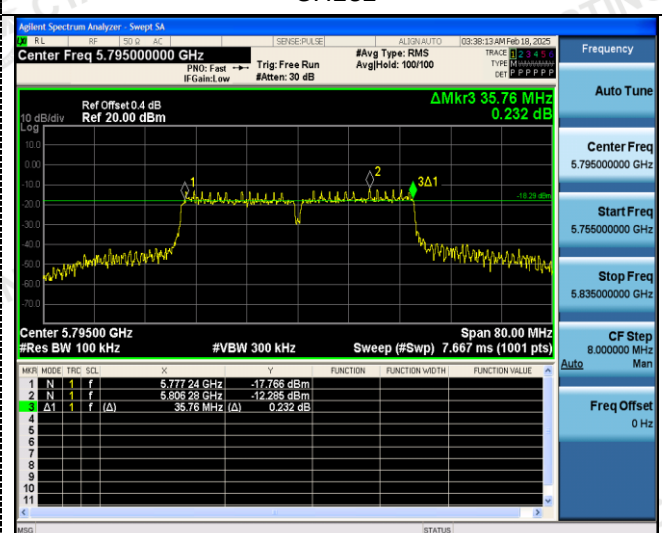
802.11ax(HT40)



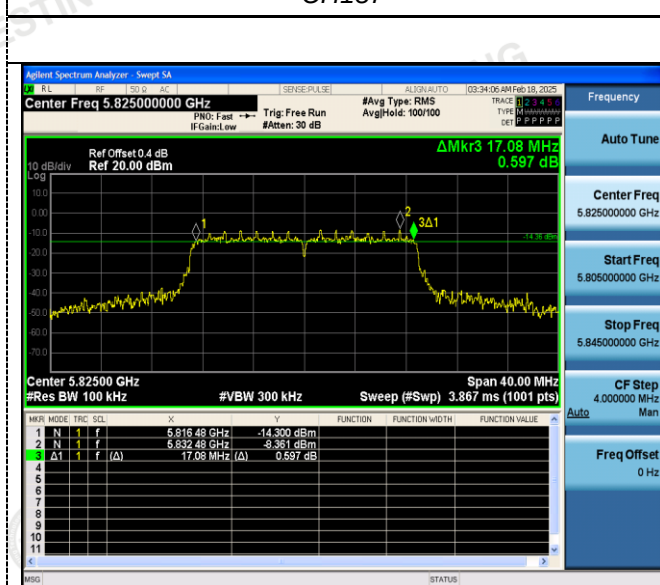
CH149



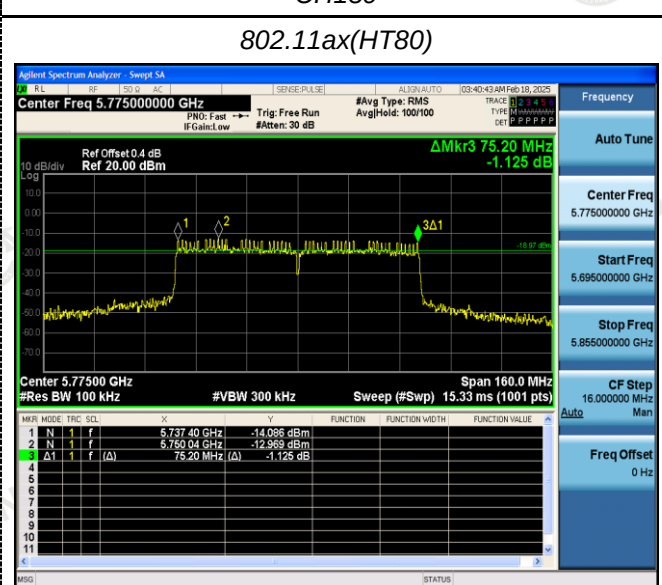
CH151



CH157



CH159



CH156

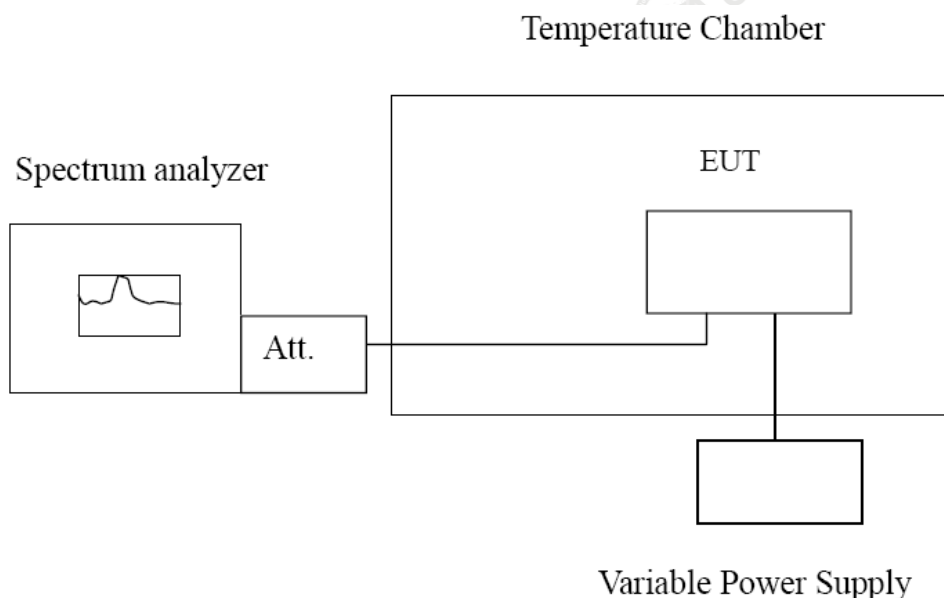
CH155

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 14.4V	-30	110.39	0.021311	Within the band of operation	Pass
	-20	174.76	0.033737		
	-10	145.55	0.028098		
	0	146.27	0.028237		
	10	145.79	0.028145		
	20	99.57	0.019222		
	30	167.26	0.032290		
	40	129.63	0.025025		
	50	128.35	0.024778		
DC 16.8V	25	195.43	0.037728	Within the band of operation	Pass
DC 13.6V	25	118.68	0.022911		

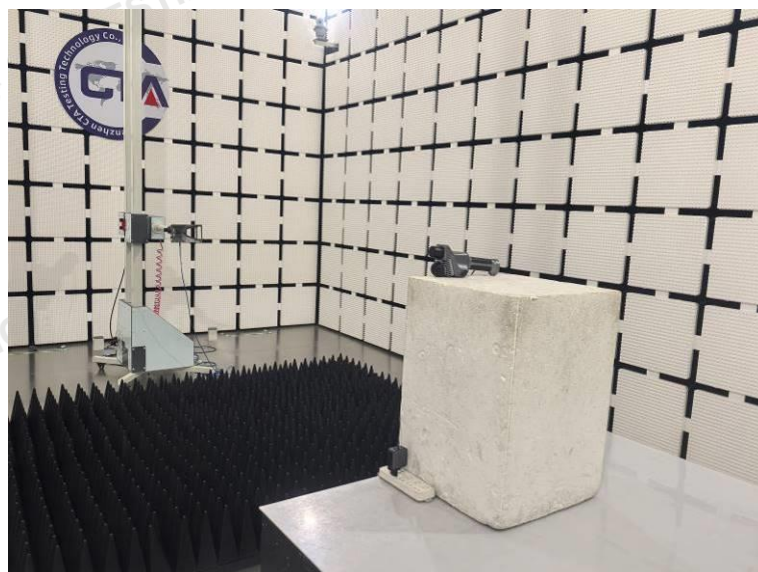
Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
DC 14.4V	-30	135.49	0.023584	Within the band of operation	Pass
	-20	129.41	0.022526		
	-10	167.34	0.029128		
	0	169.72	0.029542		
	10	136.25	0.023716		
	20	144.98	0.025236		
	30	116.63	0.020301		
	40	168.62	0.029351		
	50	160.40	0.027920		
DC 16.8V	25	150.83	0.026254	Within the band of operation	Pass
DC 13.6V	25	129.56	0.022552		

Ant 2:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
DC 14.4V	-30	110.43	0.021319	Within the band of operation	Pass
	-20	174.52	0.033691		
	-10	145.52	0.028093		
	0	146.37	0.028257		
	10	146.00	0.028185		
	20	99.63	0.019234		
	30	167.56	0.032347		
	40	129.22	0.024946		
	50	128.61	0.024828		
DC 16.8V	25	195.29	0.037701	Within the band of operation	Pass
DC 13.6V	25	118.50	0.022876		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
DC 14.4V	-30	135.59	0.023601	Within the band of operation	Pass
	-20	129.49	0.022540		
	-10	167.24	0.029111		
	0	169.49	0.029502		
	10	136.59	0.023775		
	20	144.98	0.025236		
	30	116.65	0.020305		
	40	168.18	0.029274		
	50	160.61	0.027956		
DC 16.8V	25	150.56	0.026207	Within the band of operation	Pass
DC 13.6V	25	129.72	0.022580		

5 Test Setup Photos of the EUT



6 Photos of the EUT

Reference to the test report No. CTA25020700201.

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