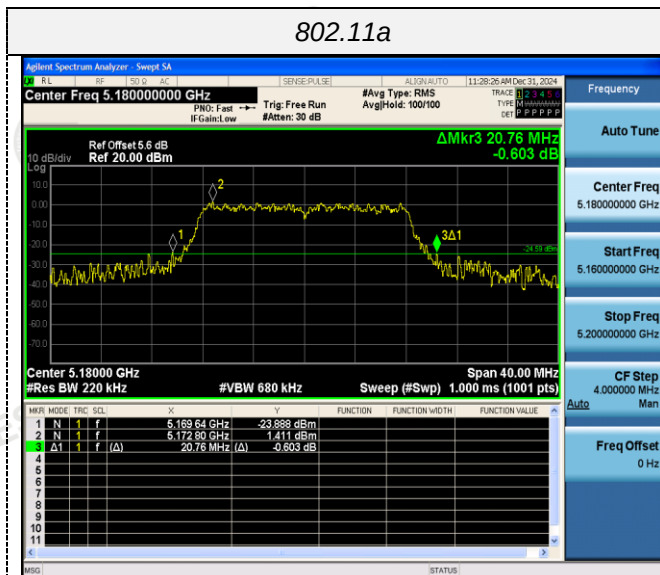
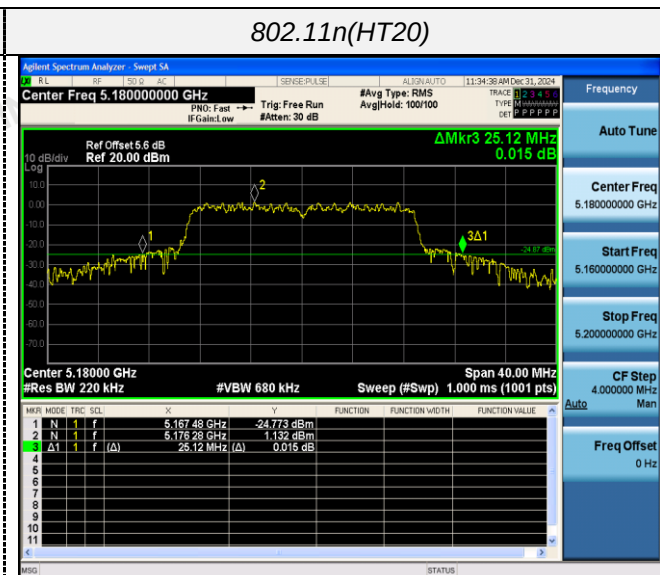


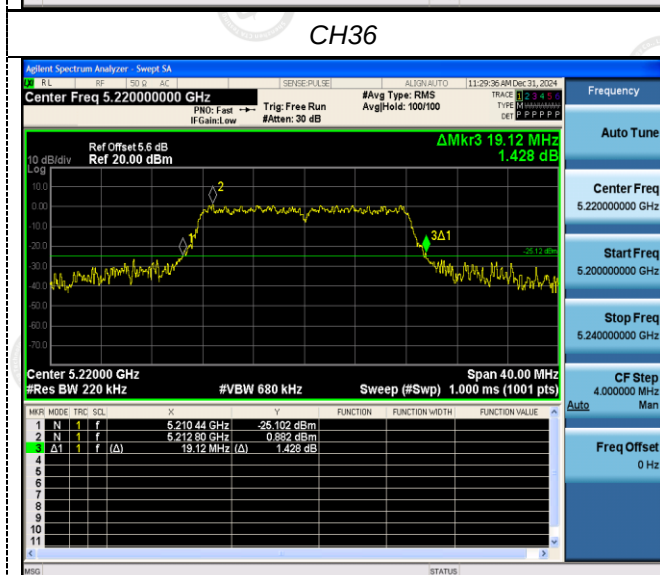
802.11a



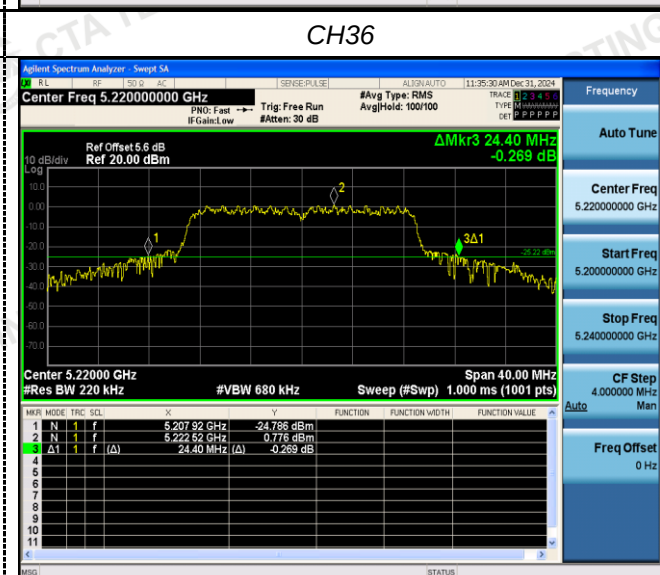
802.11n(HT20)



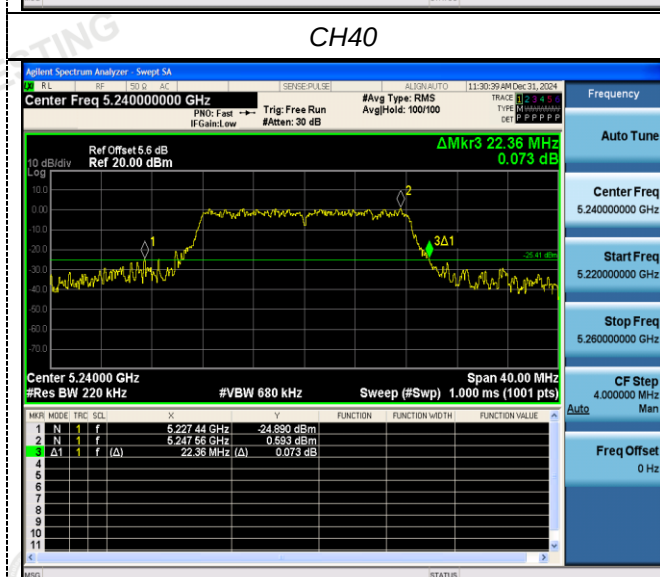
CH36



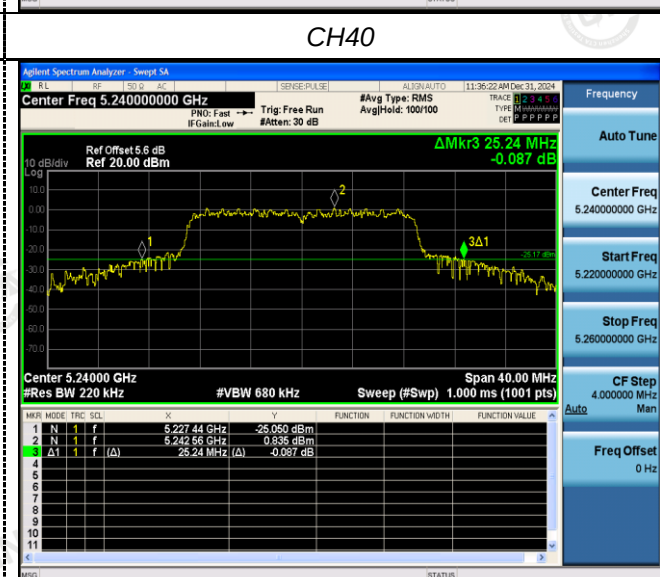
CH36



CH40



CH40



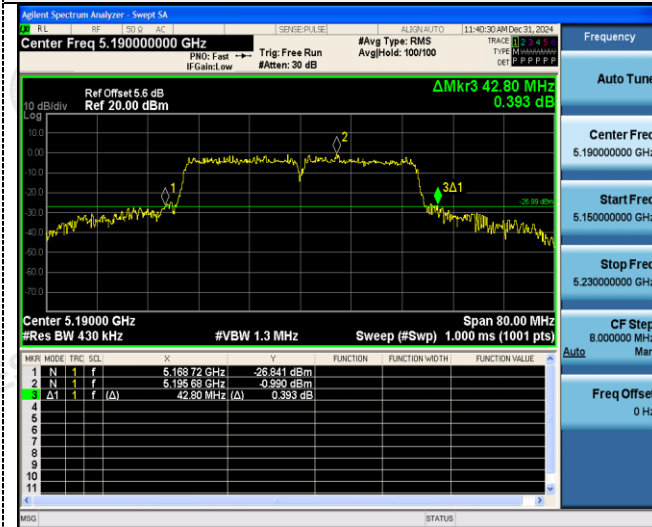
CH48



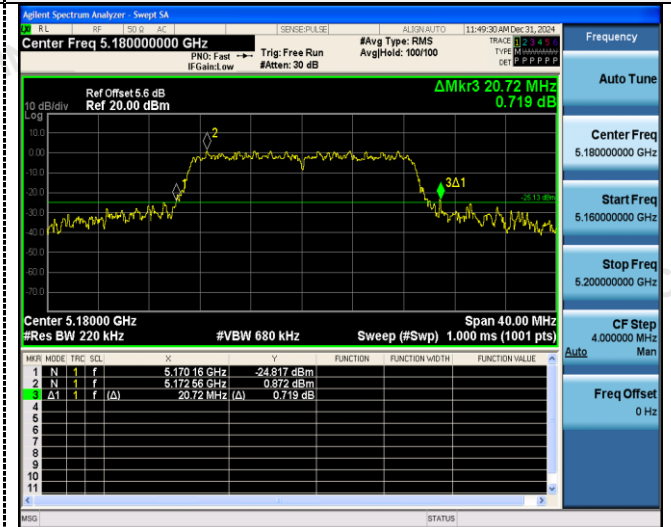
CH48



802.11n(HT40)



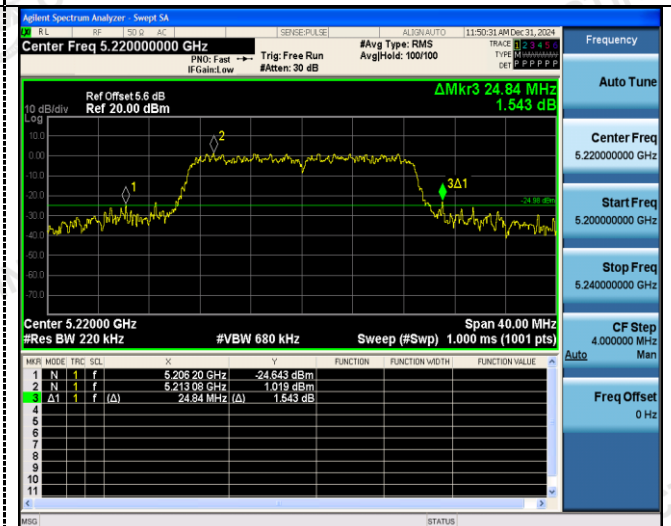
802.11ac(HT20)



CH38



CH36



CH46

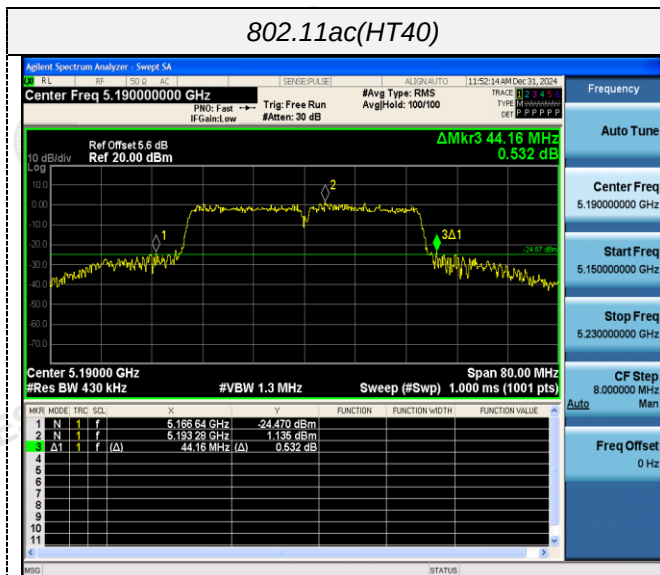


CH40

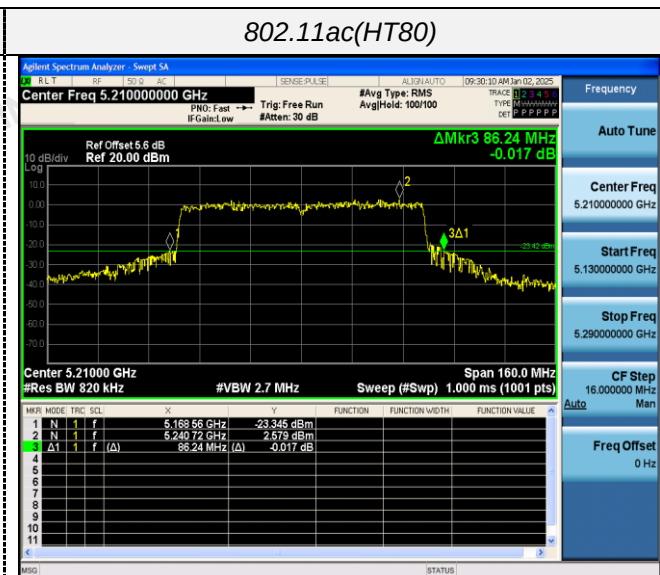


CH48

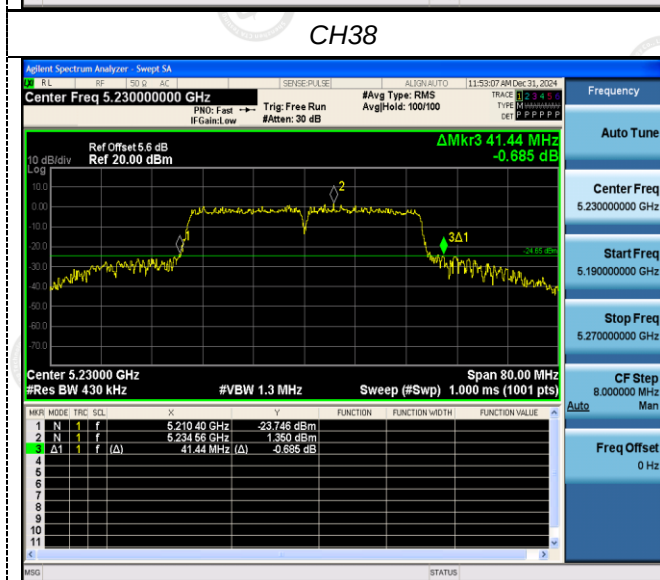
802.11ac(HT40)



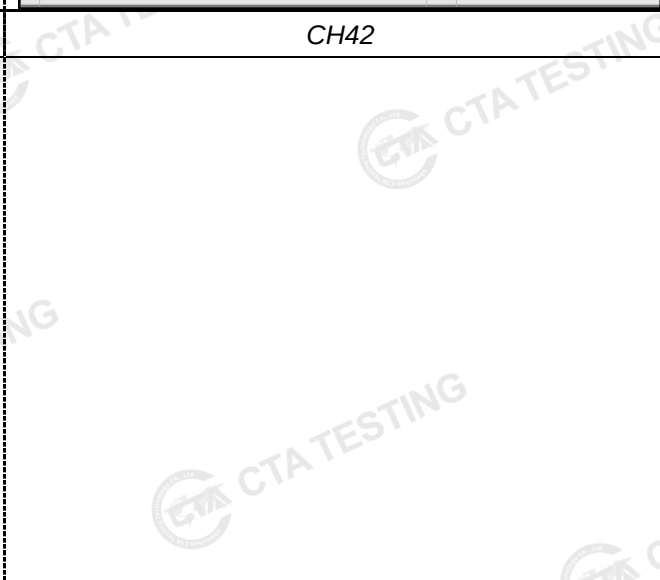
802.11ac(HT80)



CH38



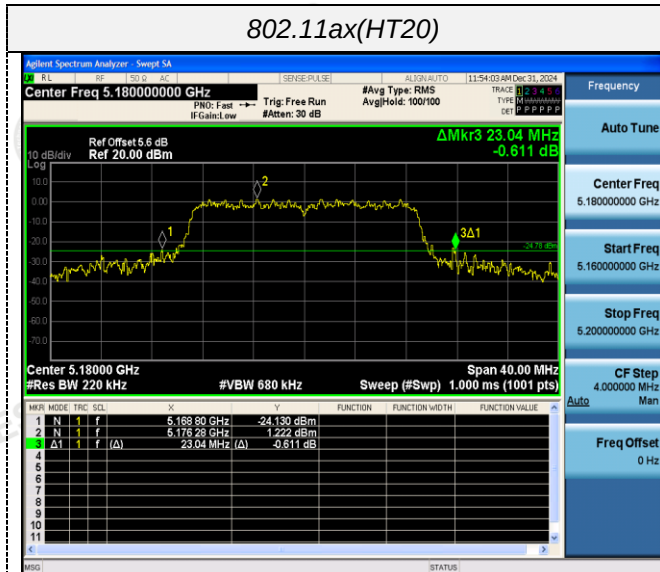
CH42



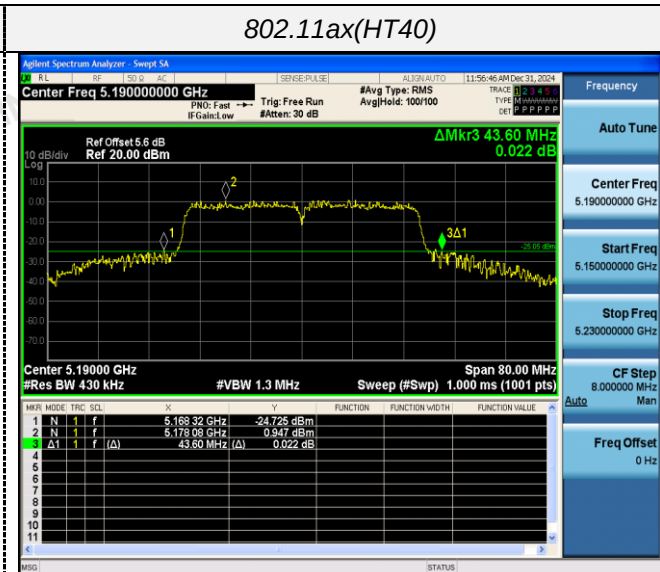
CH46



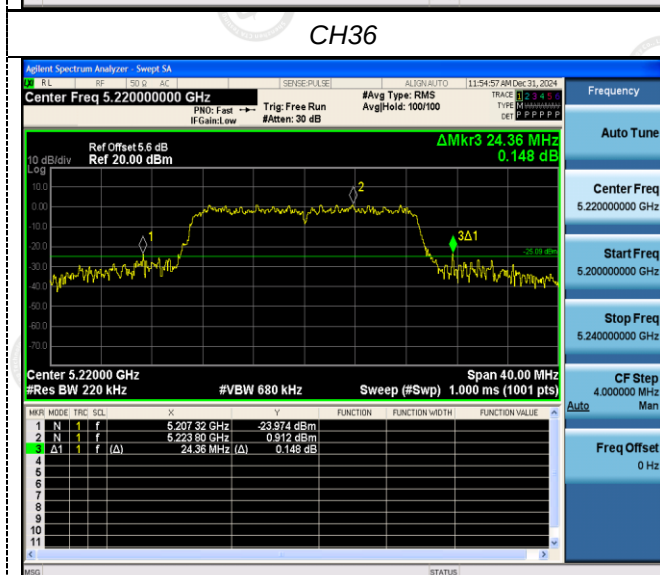
802.11ax(HT20)



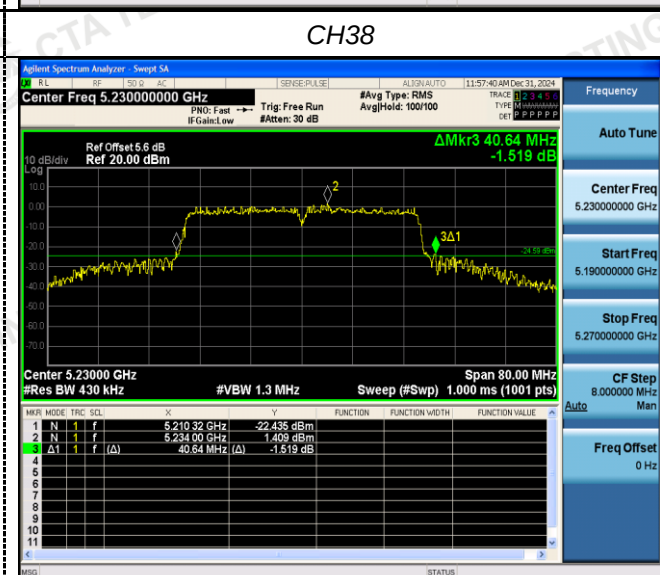
802.11ax(HT40)



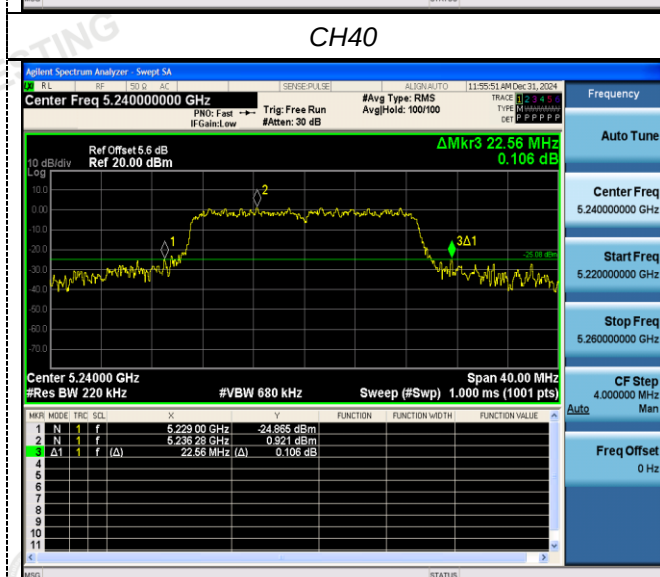
CH36



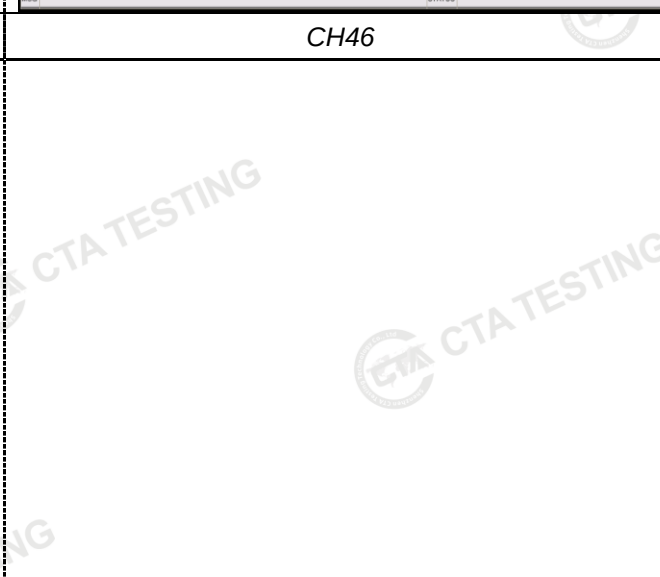
CH38



CH40



CH46



CH48



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.

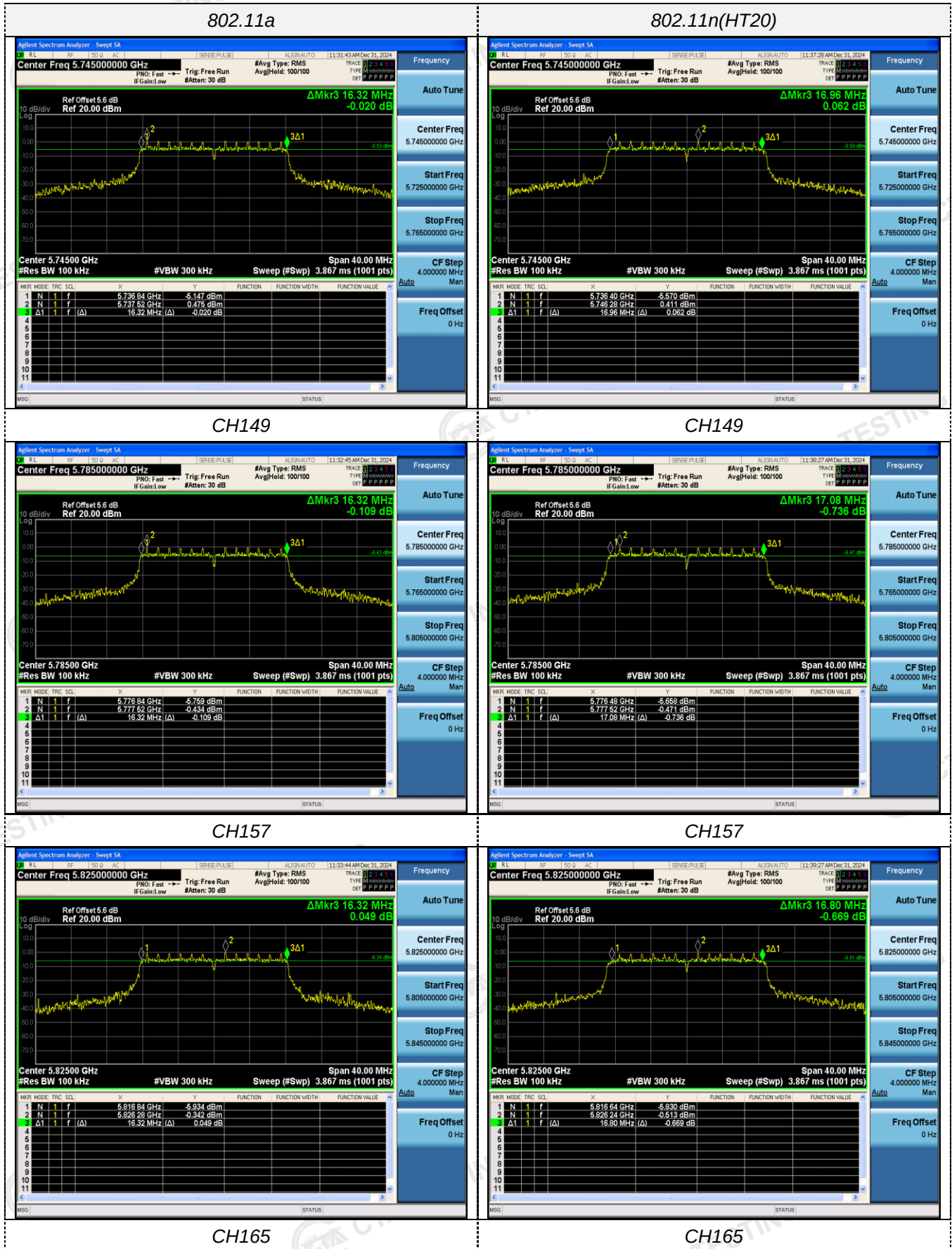
Test Configuration



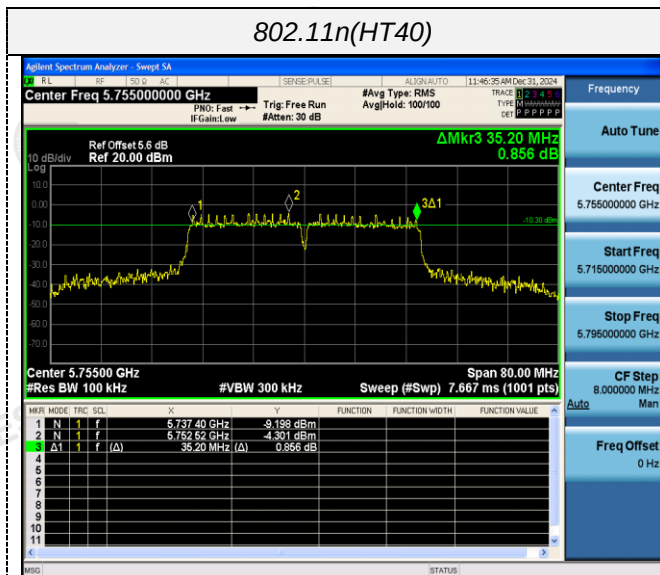
Test Results

Type	Bands	Channel	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	U-NII 3	149	16.320	≥500KHz	Pass
		157	16.320		
		165	16.320		
802.11n(HT20)	U-NII 3	149	16.960		
		157	17.080		
		165	16.800		
802.11n(HT40)	U-NII 3	151	35.200		
		159	35.200		
802.11ac(HT20)	U-NII 3	149	17.000		
		157	16.840		
		165	16.840		
802.11ac(HT40)	U-NII 3	151	35.200		
		159	35.360		
802.11ac(HT80)	U-NII 3	155	75.200		
802.11ax(HT20)	U-NII 3	149	16.800		
		157	16.880		
		165	16.960		
802.11ax(HT40)	U-NII 3	151	35.520		
		159	35.360		
802.11ax(HT80)	U-NII 3	155	75.200		

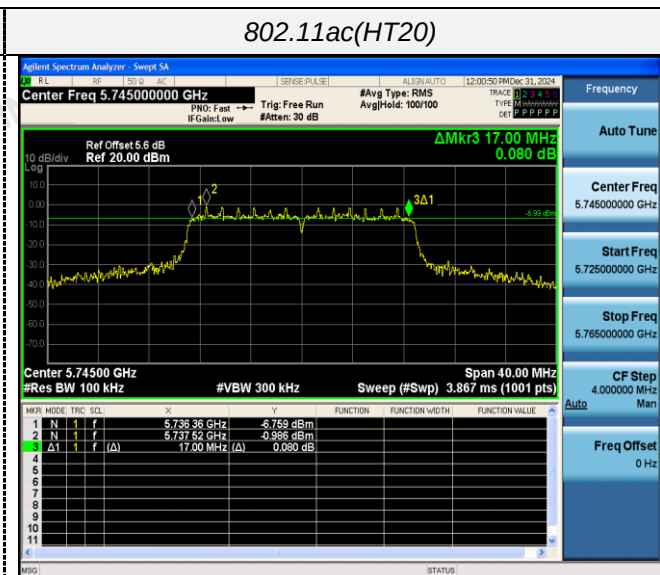
Test plot as follows:



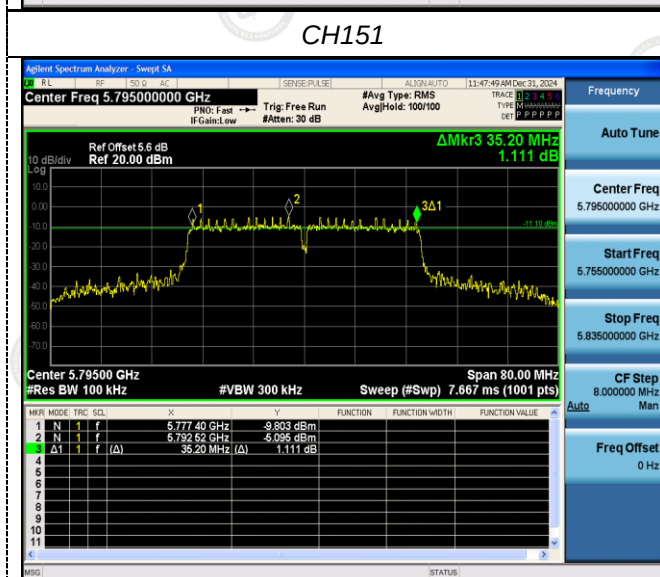
802.11n(HT40)



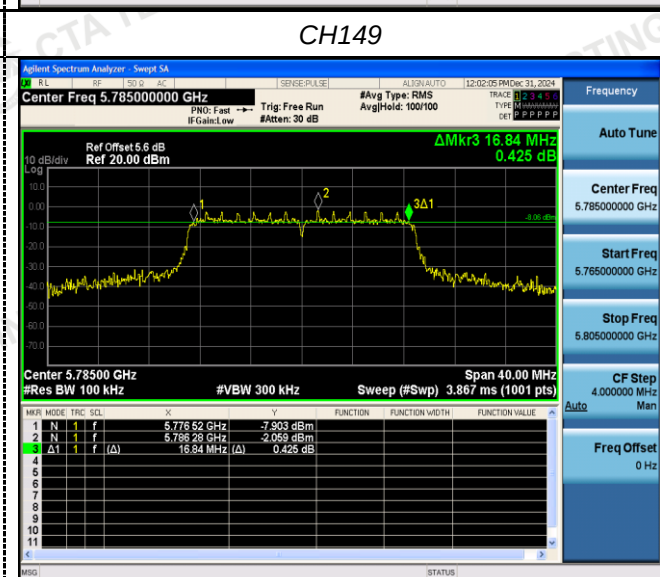
802.11ac(HT20)



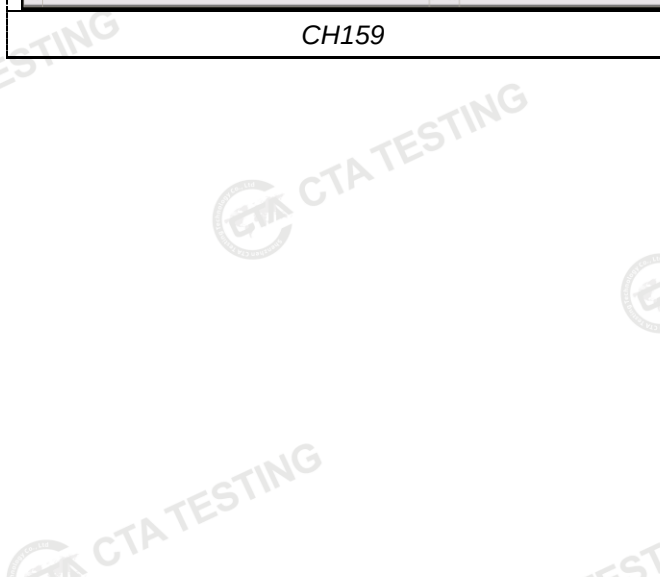
CH151



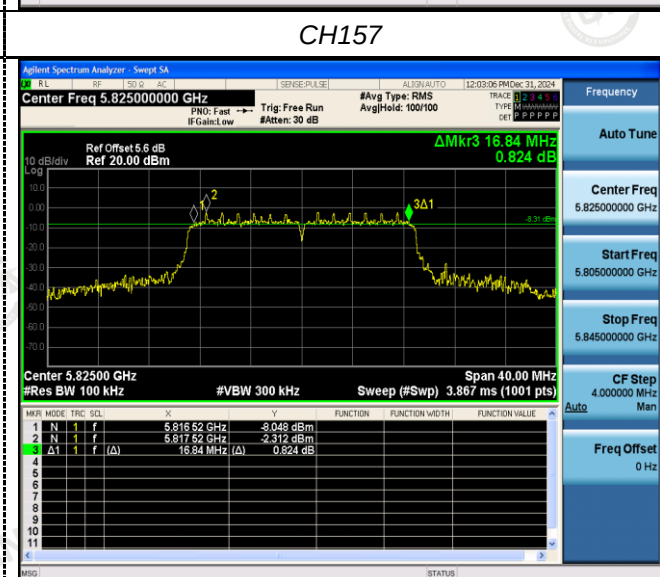
CH149



CH159

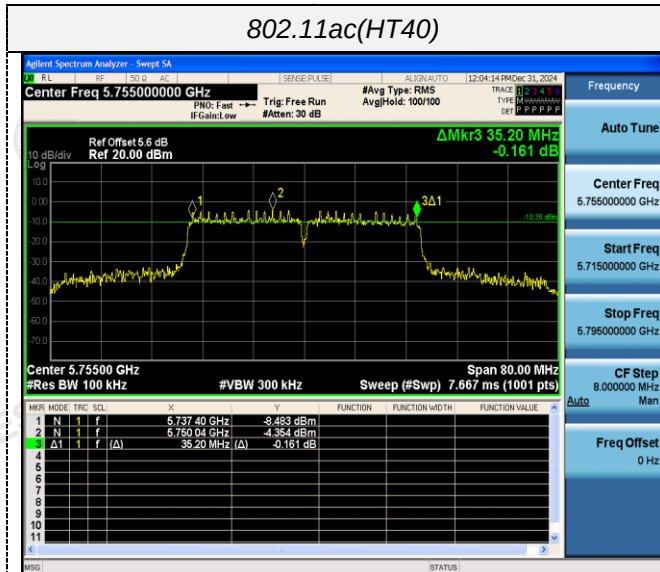


CH157

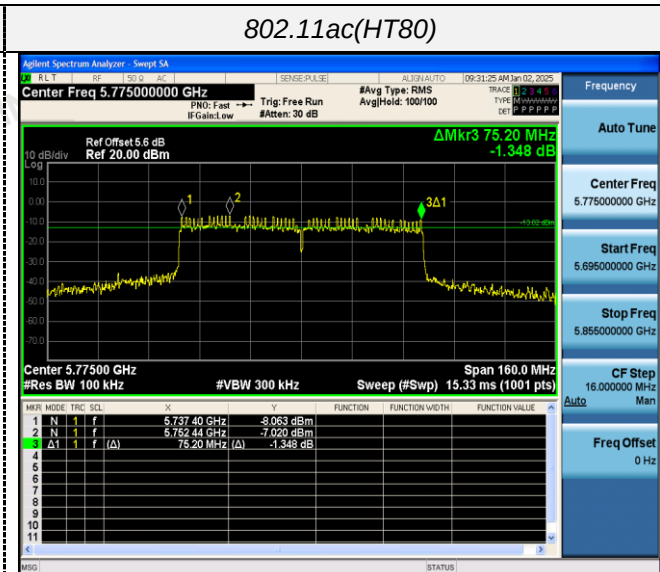


CH165

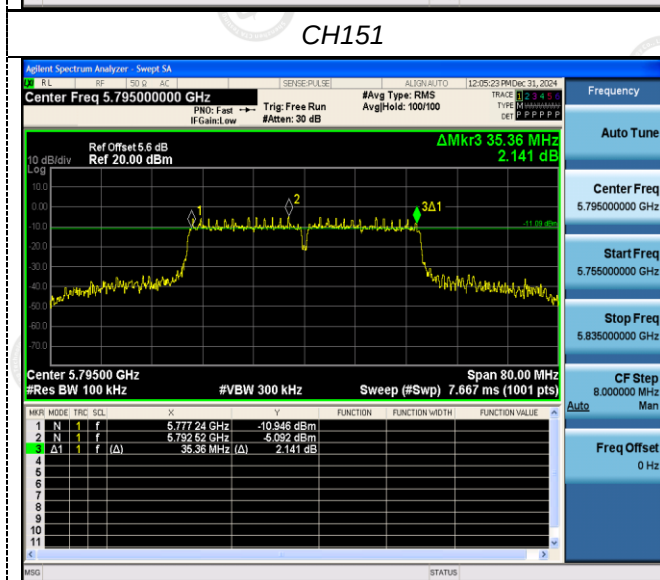
802.11ac(HT40)



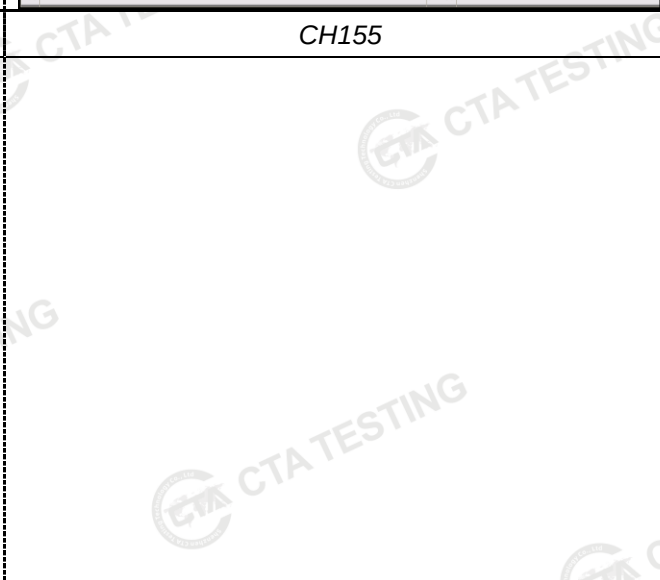
802.11ac(HT80)



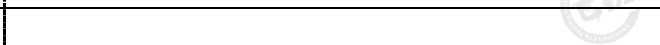
CH151



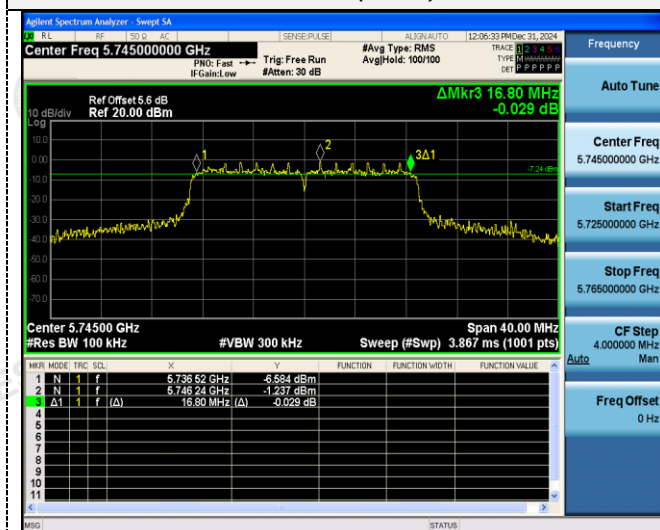
CH155



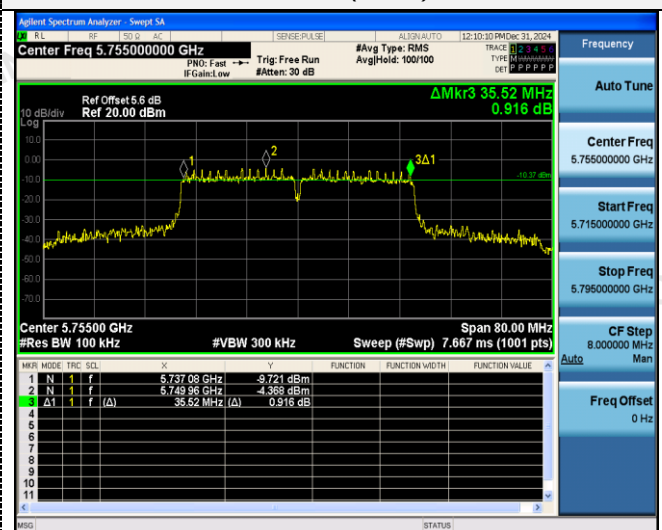
CH159



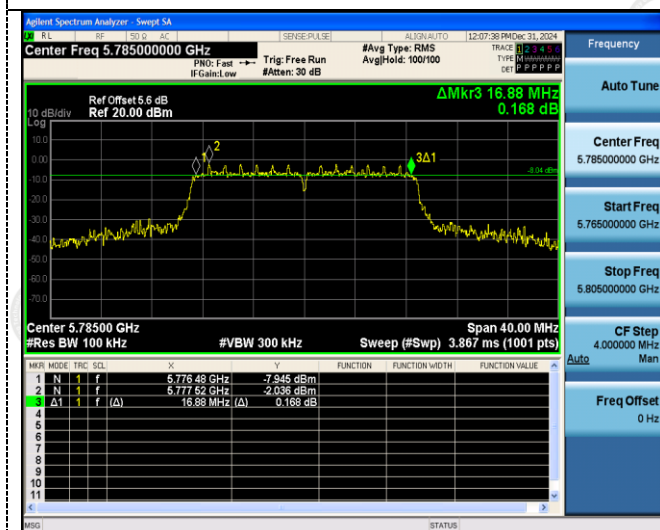
802.11ax(HT20)



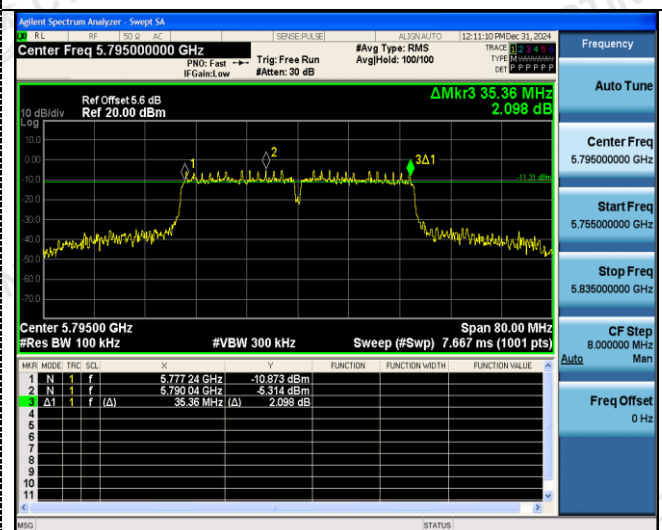
802.11ax(HT40)



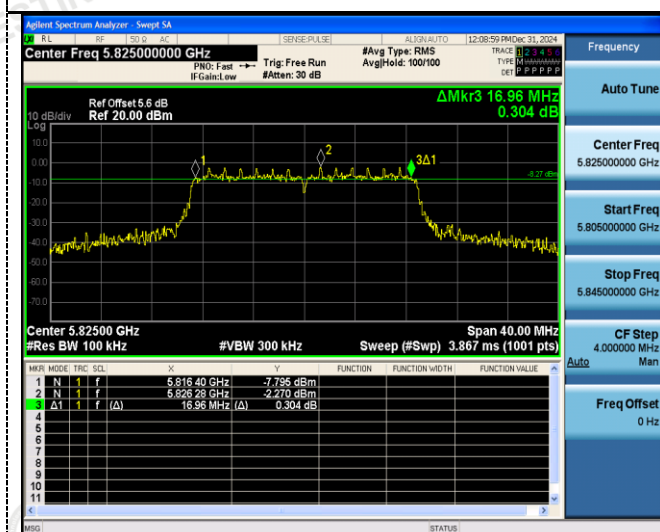
CH149



CH151



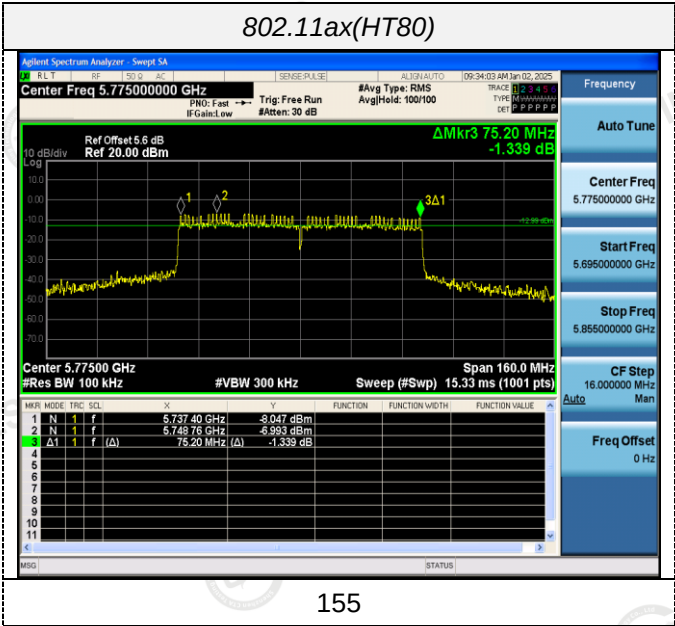
CH157



CH159



CH165

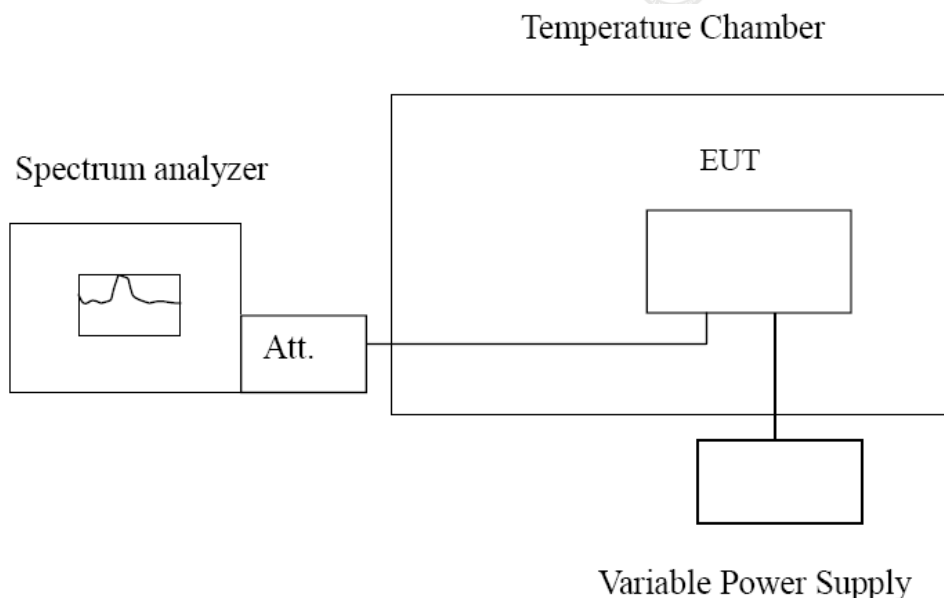


4.7 Frequency Stability

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		
AC 120	-30	110.28	0.021290	Within the band of operation	Pass
	-20	174.71	0.033728		
	-10	145.17	0.028025		
	0	146.46	0.028274		
	10	145.99	0.028183		
	20	99.68	0.019243		
	30	167.44	0.032324		
	40	129.33	0.024967		
	50	128.62	0.024830		
AC 132	25	195.31	0.037705	Within the band of operation	Pass
AC 108	25	118.72	0.022919		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 120	-30	110.28	0.019196	Within the band of operation	Pass
	-20	174.71	0.030411		
	-10	145.17	0.025269		
	0	146.46	0.025493		
	10	145.99	0.025412		
	20	99.68	0.017351		
	30	167.44	0.029145		
	40	129.33	0.022512		
	50	128.62	0.022388		
AC 132	25	195.31	0.033997	Within the band of operation	Pass
AC 108	25	118.72	0.020665		

5 Test Setup Photos of the EUT



6 Photos of the EUT

Reference to the test report No. CTA24121202201.

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