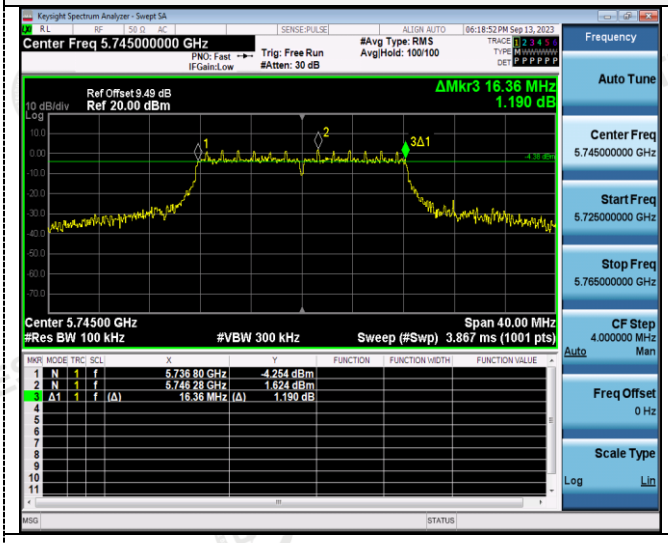
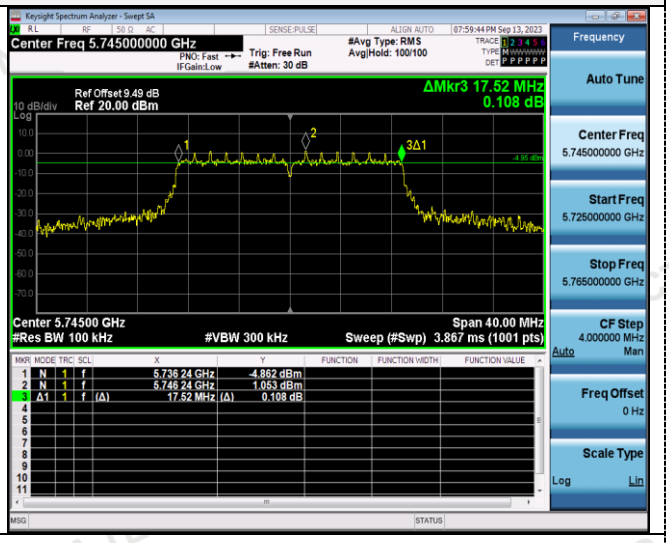
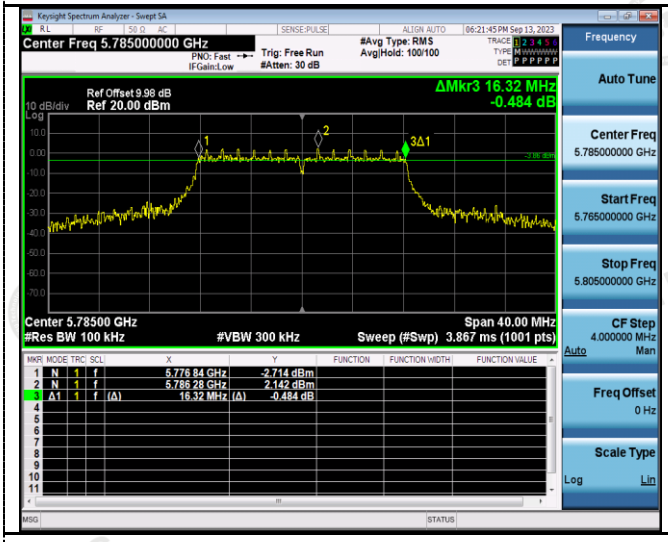
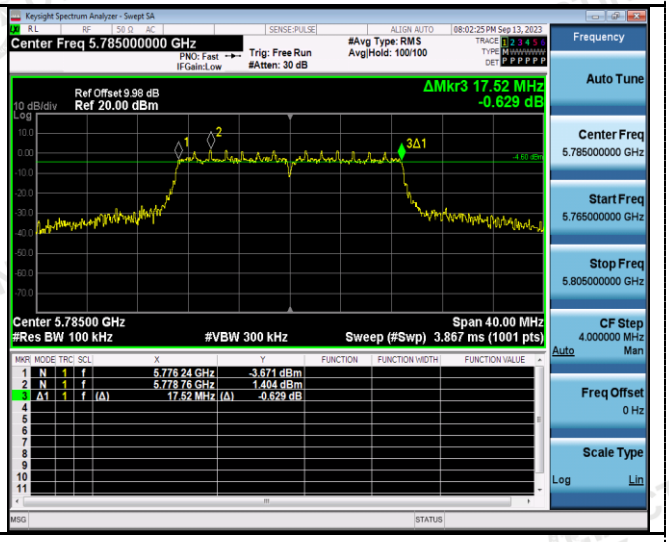
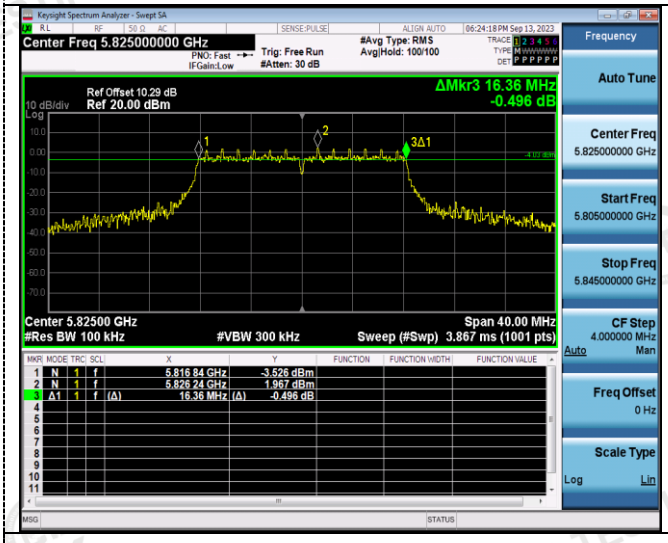
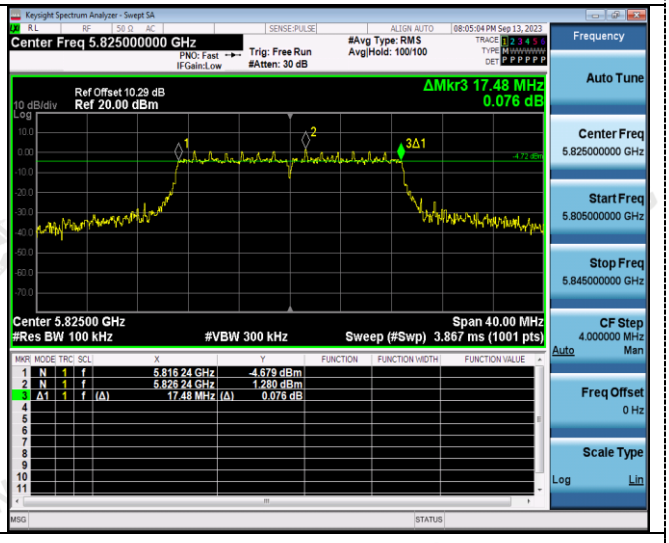
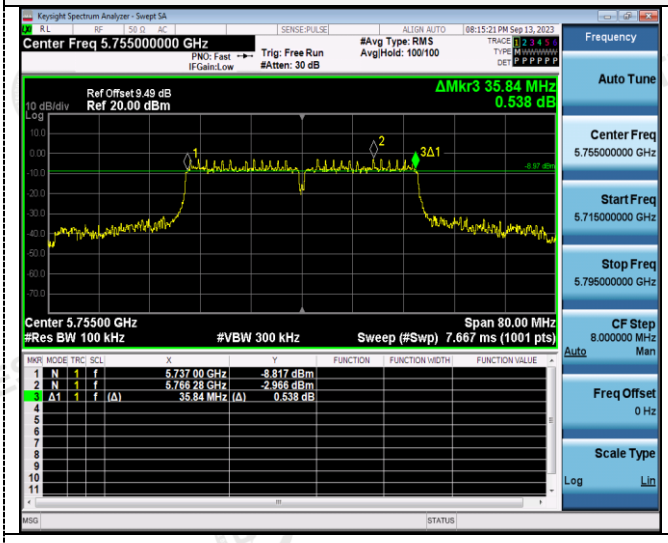
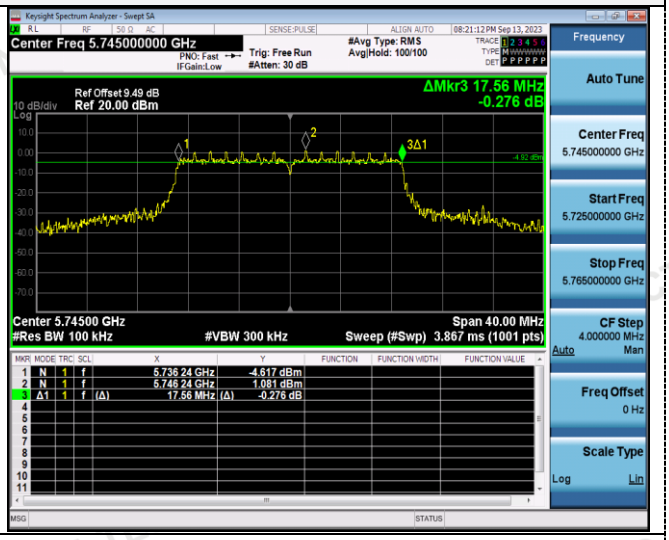
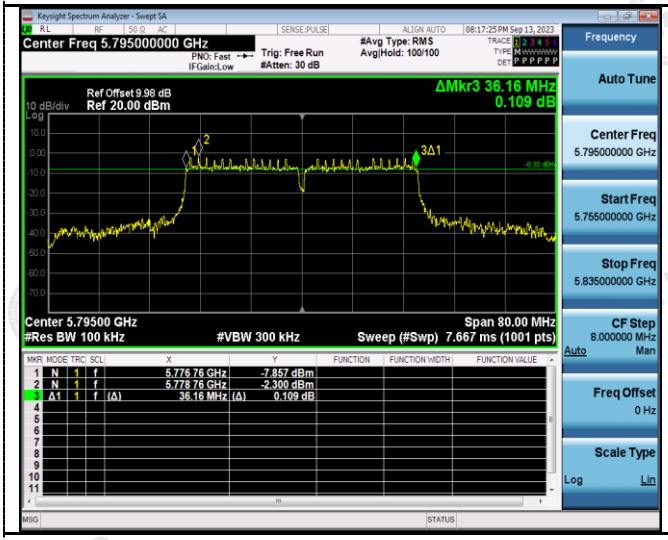
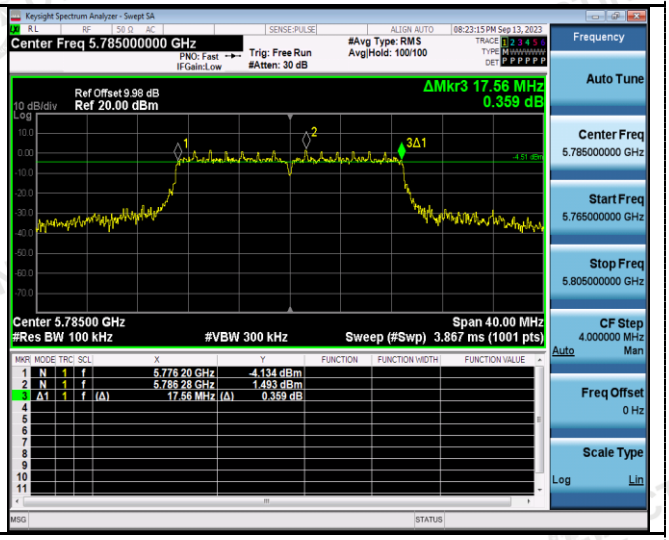
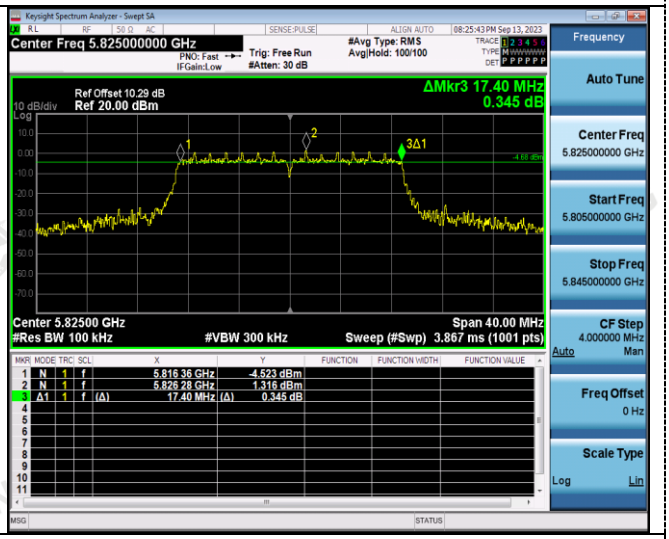
ANT 2

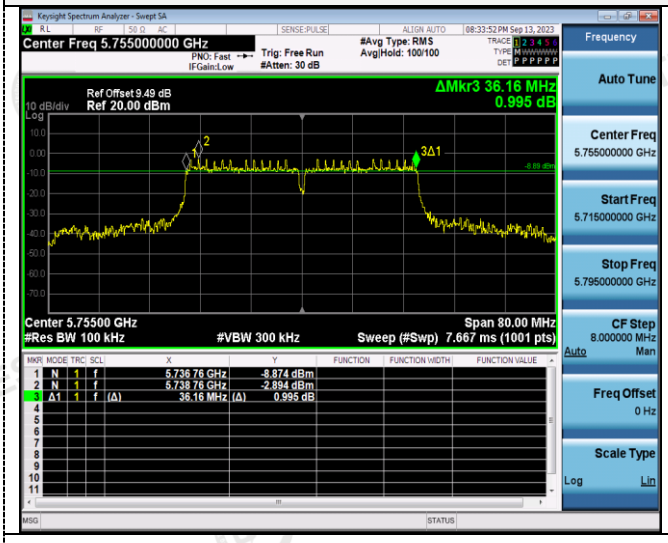
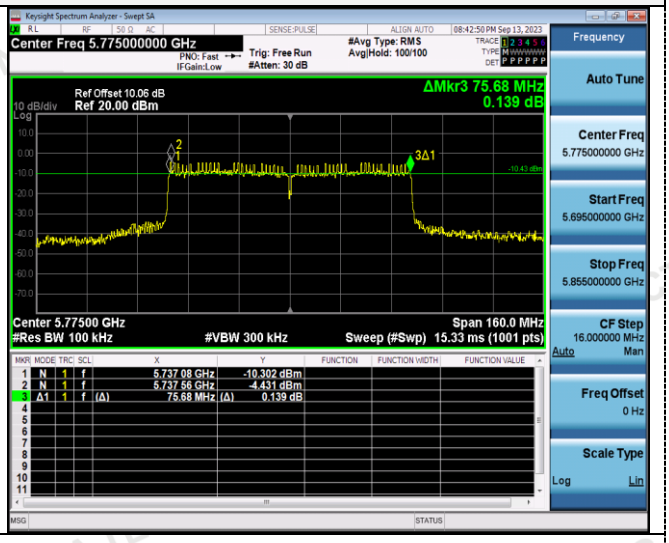
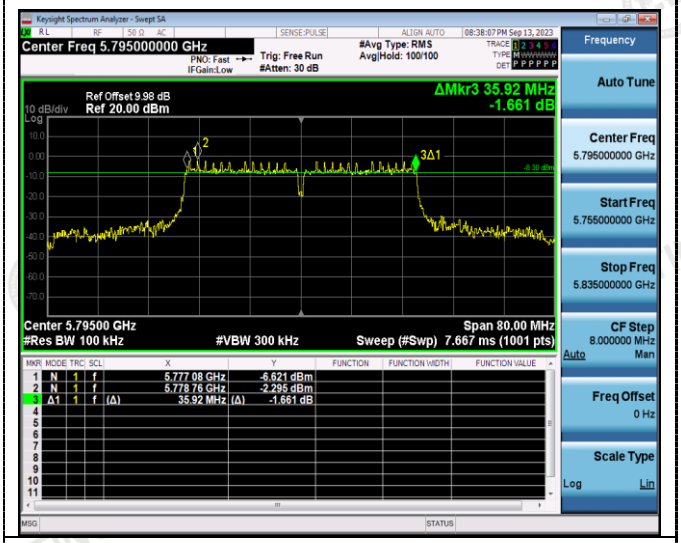
Type	Bands	Channel	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11a	U-NII 3	149	16.360	≥500KHz	Pass
		157	16.360		
		165	16.320		
802.11n(HT20)	U-NII 3	149	17.600		
		157	17.560		
		165	17.560		
802.11n(HT40)	U-NII 3	151	36.000		
		159	36.160		
802.11ac(HT20)	U-NII 3	149	17.520		
		157	17.520		
		165	17.560		
802.11ac(HT40)	U-NII 3	151	35.600		
		159	35.760		
802.11ac(HT80)	U-NII 3	155	75.360		

Test plot as follows:

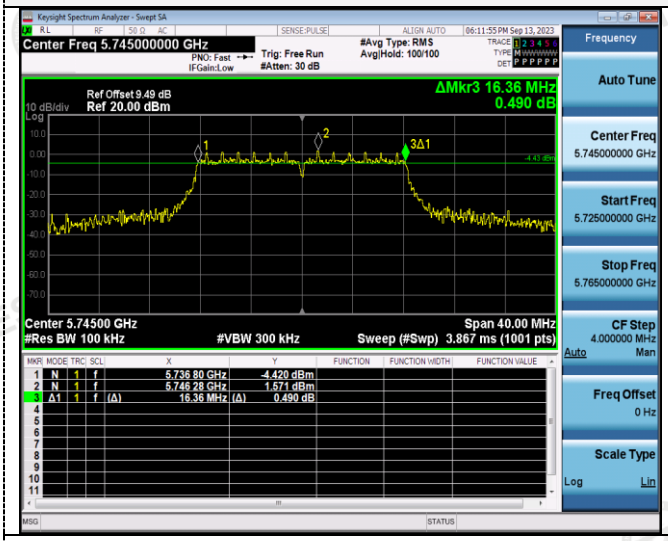
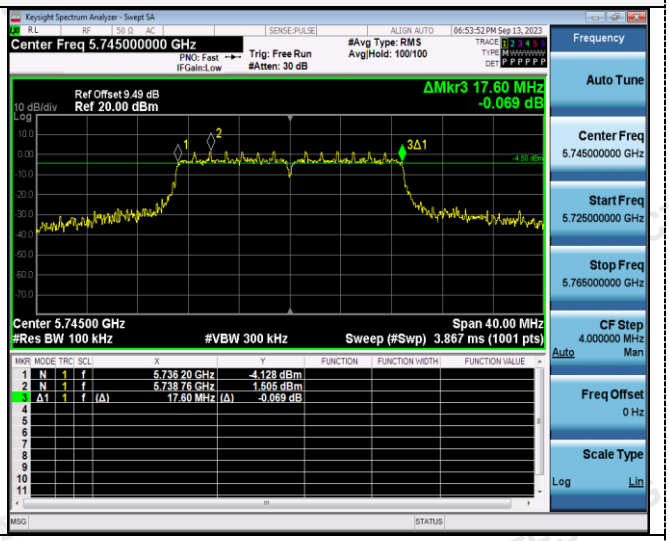
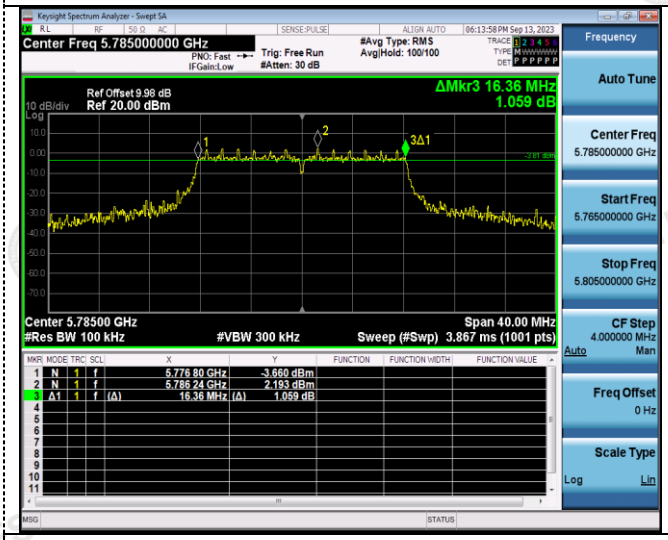
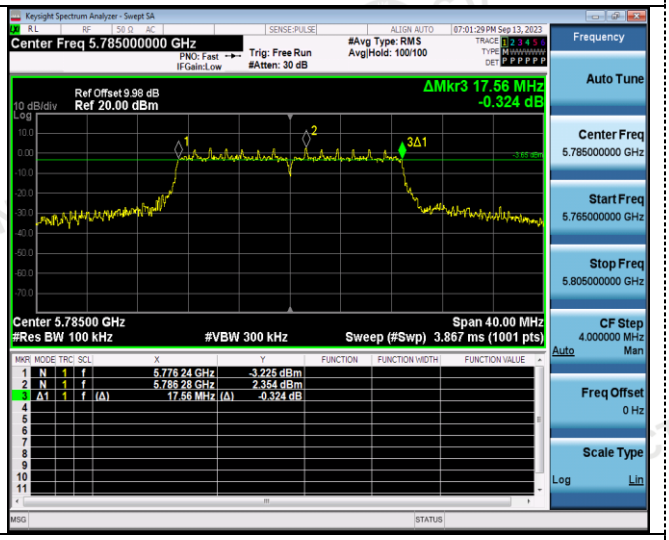
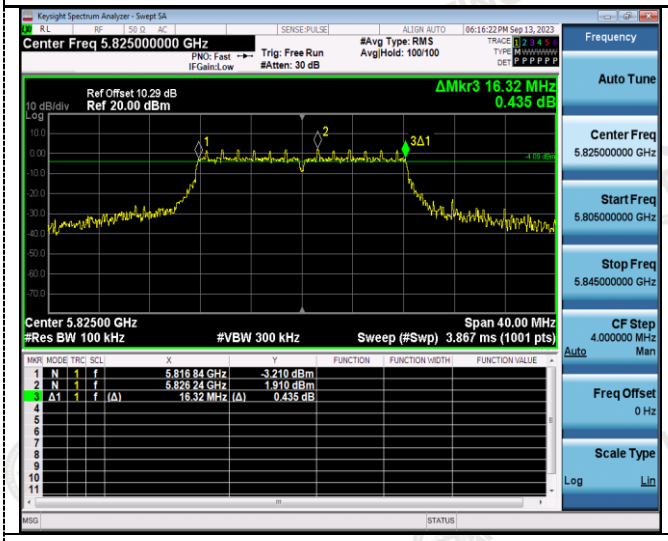
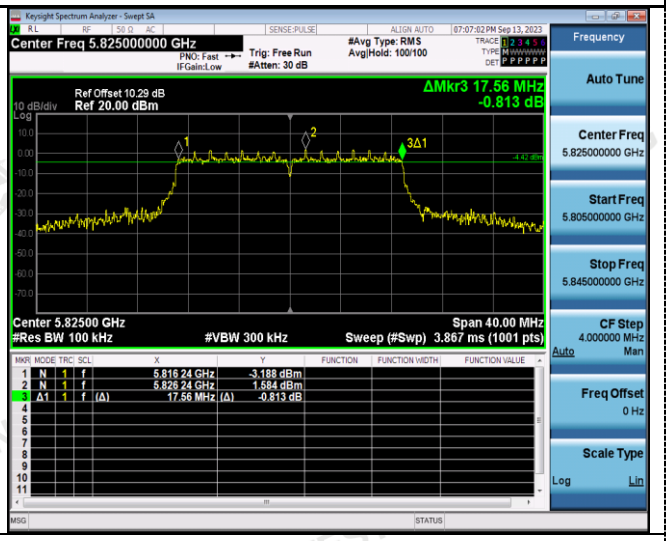
ANT 1

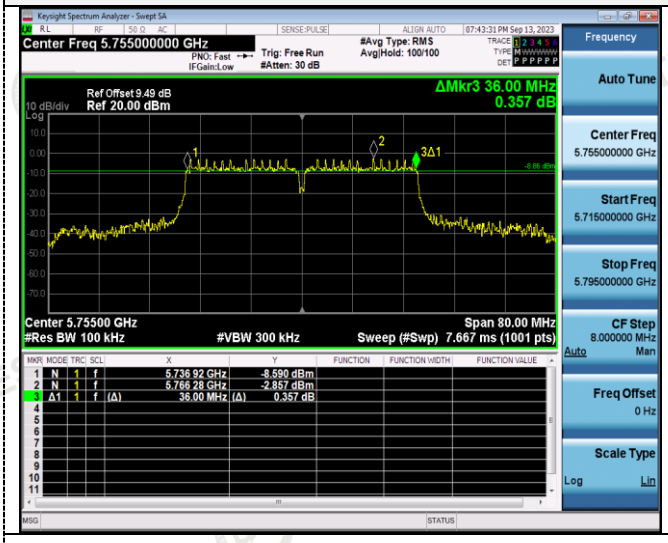
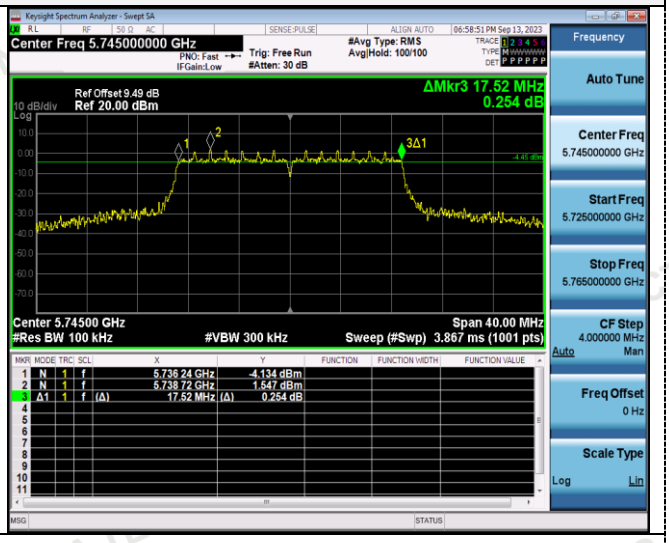
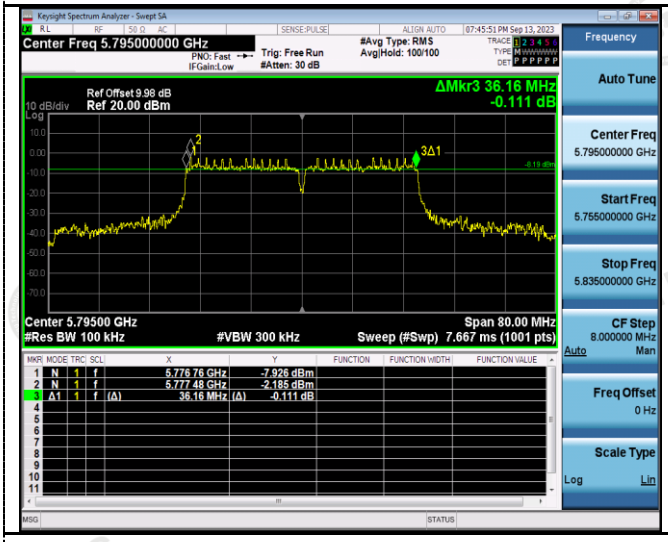
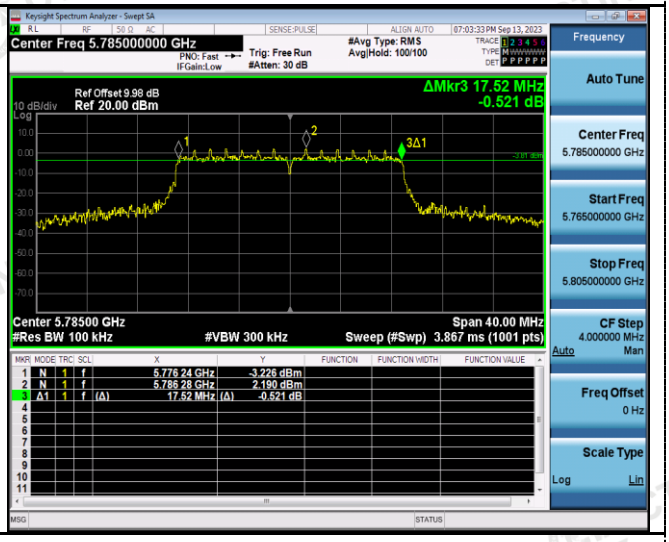
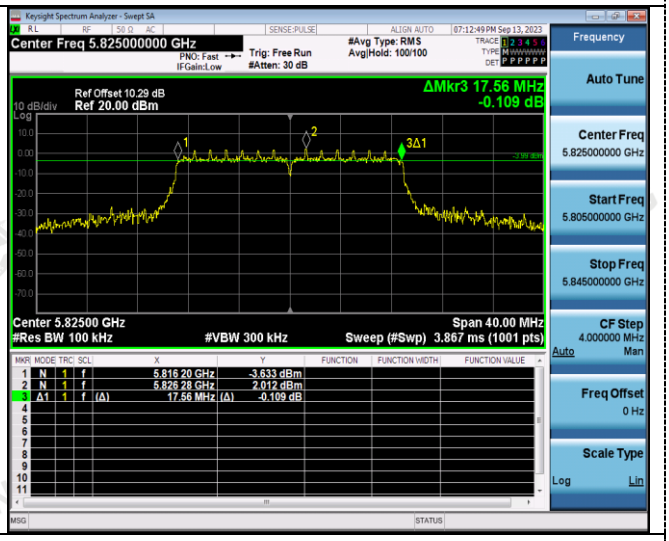
802.11a	802.11n(HT20)
	
CH149	CH149
	
CH157	CH157
	
CH165	CH165

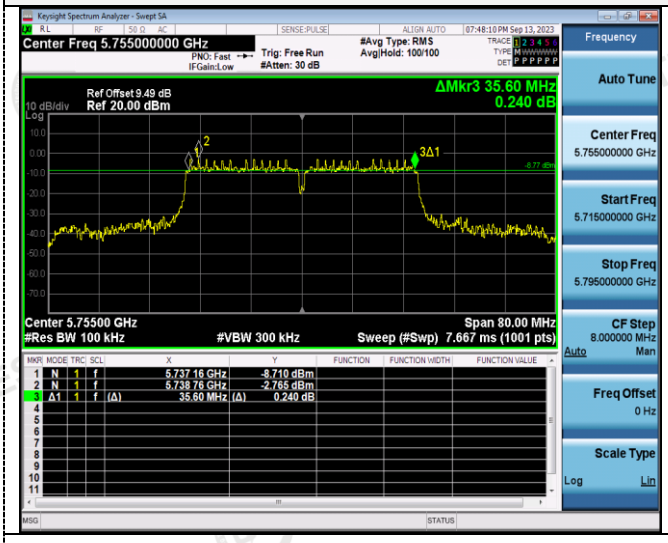
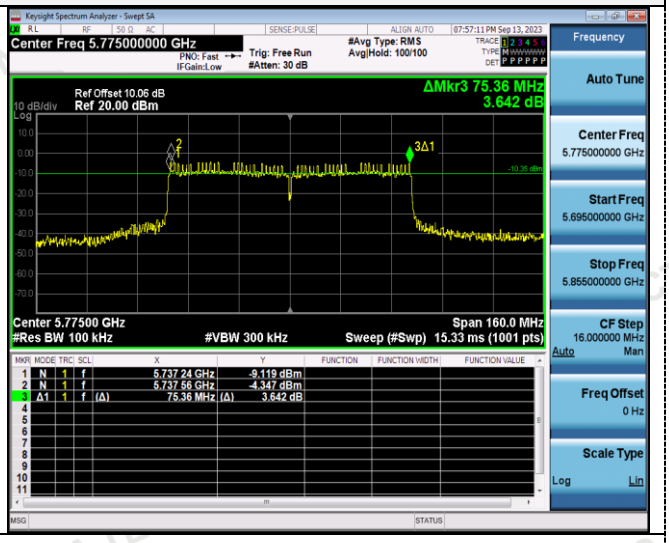
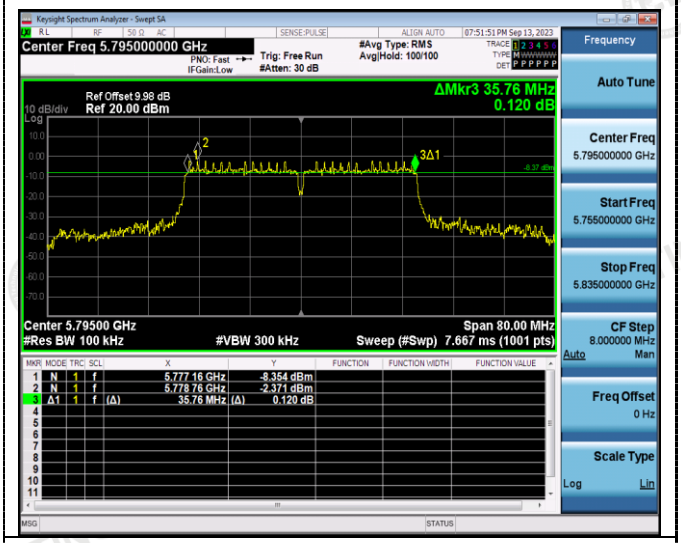
802.11n(HT40)	802.11ac(HT20)
	
CH151	CH149
	
CH159	CH157
	
	CH165

802.11ac(HT40)	802.11ac(HT80)
	
CH151	CH155
	
CH159	

ANT 2

802.11a	802.11n(HT20)
	
CH149	CH149
	
CH157	CH157
	
CH165	CH165

802.11n(HT40)	802.11ac(HT20)
	
CH151	CH149
	
CH159	CH157
	
	CH165

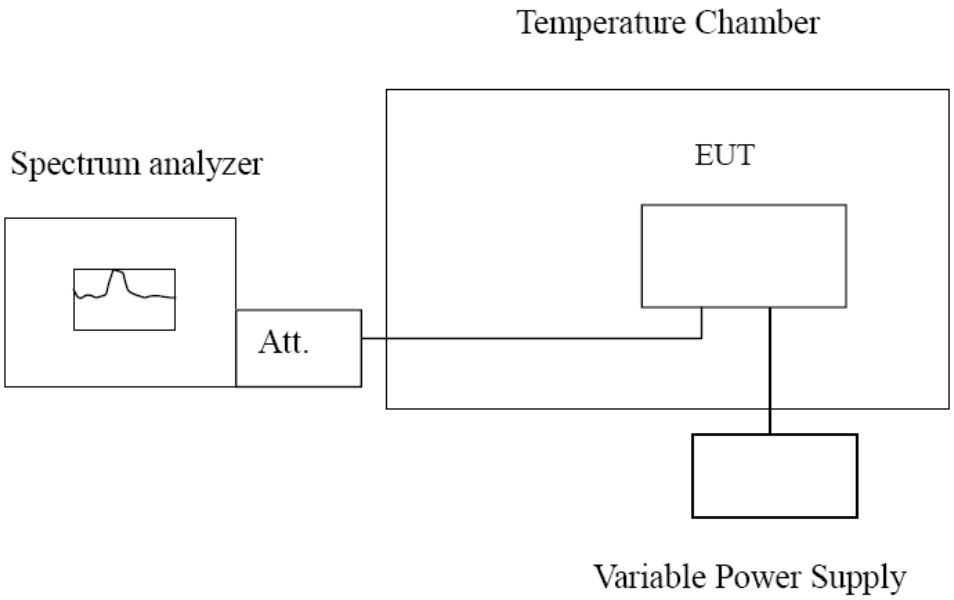
802.11ac(HT40)	802.11ac(HT80)
	
CH151	CH155
	
CH159	

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℃ operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached.

Frequency Stability under Voltage Variations:
Set chamber temperature to 20℃. 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 (±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 (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 230	-30	110.69	0.021369	Within the band of operation	Pass
	-20	174.42	0.033672		
	-10	145.18	0.028027		
	0	146.74	0.028328		
	10	146.22	0.028228		
	20	99.78	0.019263		
	30	167.14	0.032266		
	40	129.46	0.024992		
	50	128.34	0.024776		
AC 240	25	195.75	0.037790		
AC 207	25	118.75	0.022925		

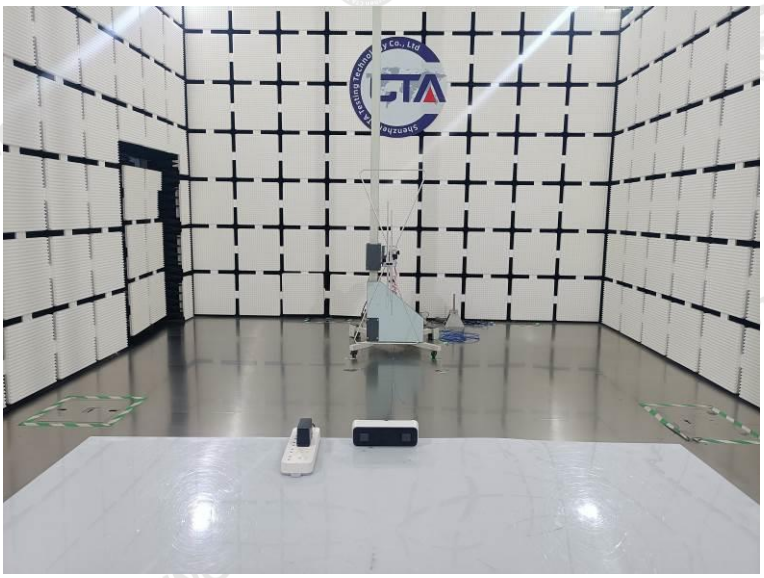
Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 230	-30	135.79	0.023636	Within the band of operation	Pass
	-20	129.78	0.022590		
	-10	167.10	0.029086		
	0	169.81	0.029558		
	10	136.67	0.023789		
	20	144.81	0.025206		
	30	116.45	0.020270		
	40	168.50	0.029330		
	50	160.48	0.027934		
AC 240	25	150.79	0.026247		
AC 207	25	129.51	0.022543		

Ant2:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage (V)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 230	-30	110.48	0.021328	Within the band of operation	Pass
	-20	174.80	0.033745		
	-10	145.35	0.028060		
	0	146.80	0.028340		
	10	145.90	0.028166		
	20	99.42	0.019193		
	30	167.52	0.032340		
	40	129.56	0.025012		
	50	128.74	0.024853		
AC 240	25	195.69	0.037778		
AC 207	25	118.69	0.022913		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 230	-30	135.49	0.023584	Within the band of operation	Pass
	-20	129.43	0.022529		
	-10	167.35	0.029130		
	0	169.60	0.029521		
	10	136.37	0.023737		
	20	144.60	0.025170		
	30	116.34	0.020251		
	40	168.58	0.029344		
	50	160.81	0.027991		
AC 240	25	150.77	0.026244		
AC 207	25	129.83	0.022599		

5 Test Setup Photos of the EUT



6 Photos of the EUT

Reference to the test report No. **CTA23090501101.**

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