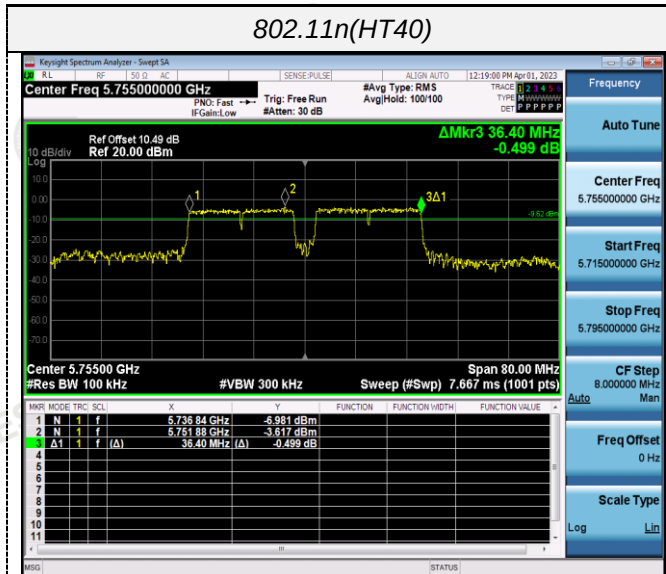
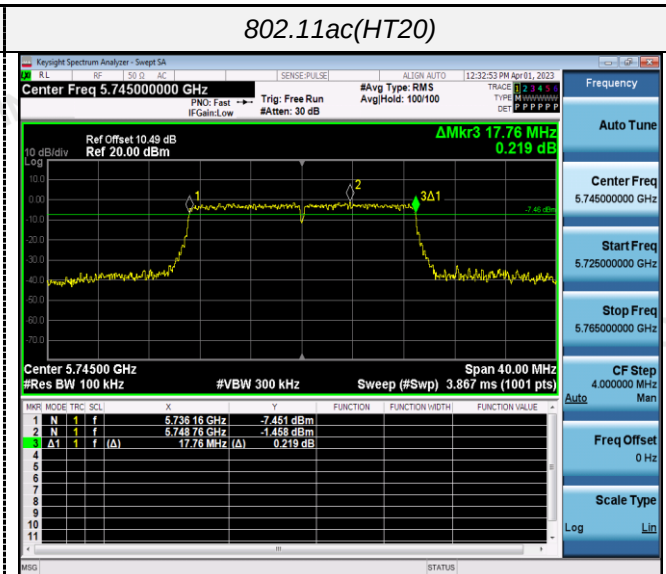


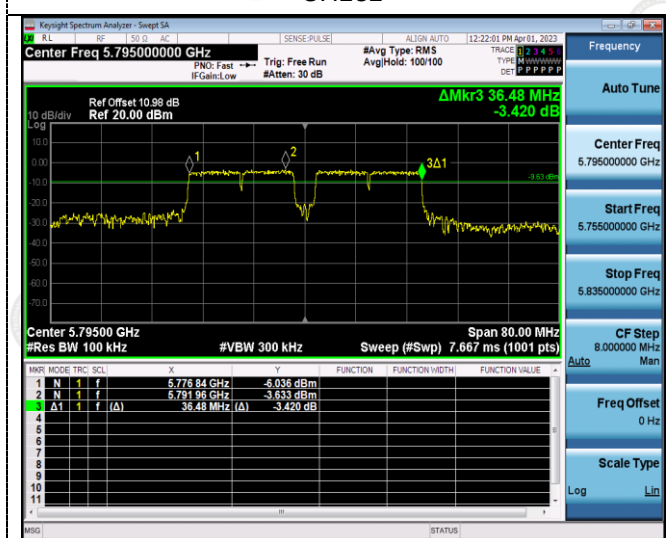
802.11n(HT40)



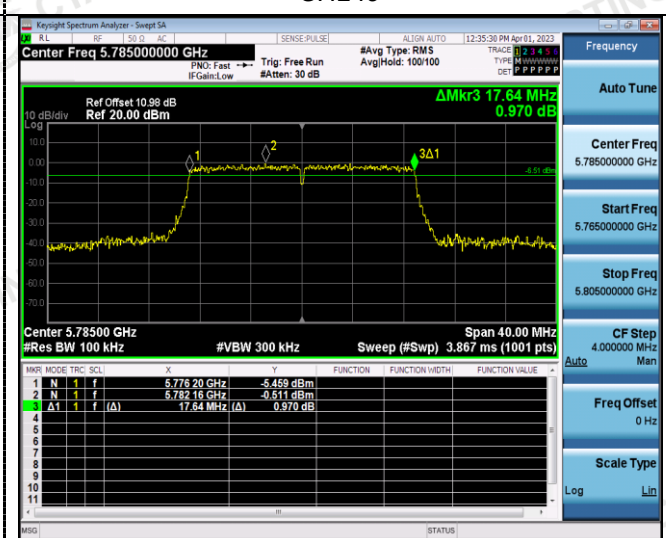
802.11ac(HT20)



CH151



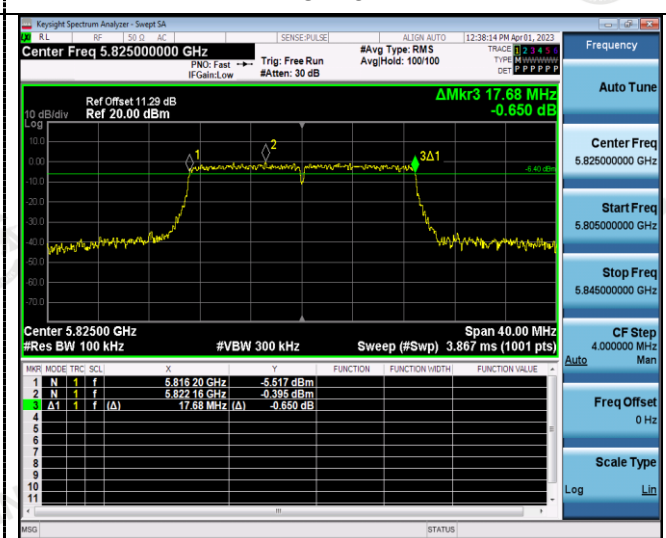
CH149



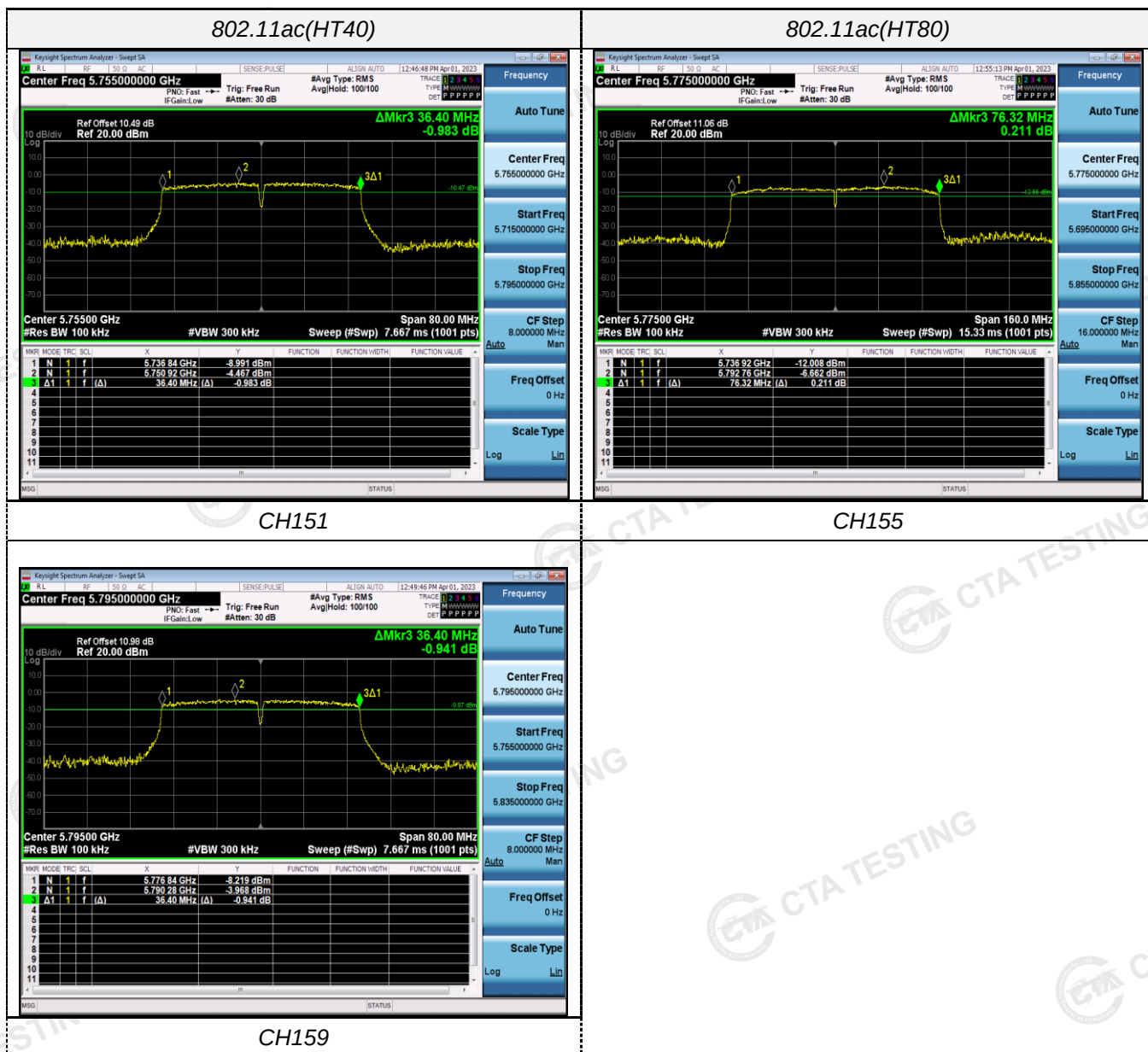
CH159



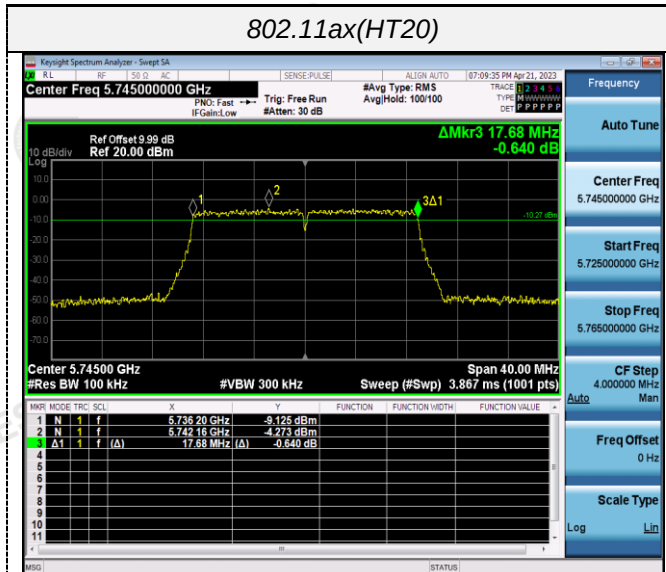
CH157



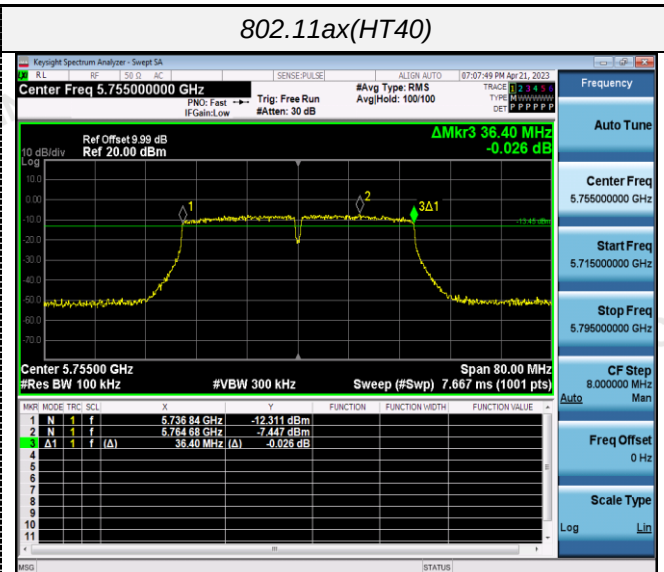
CH165



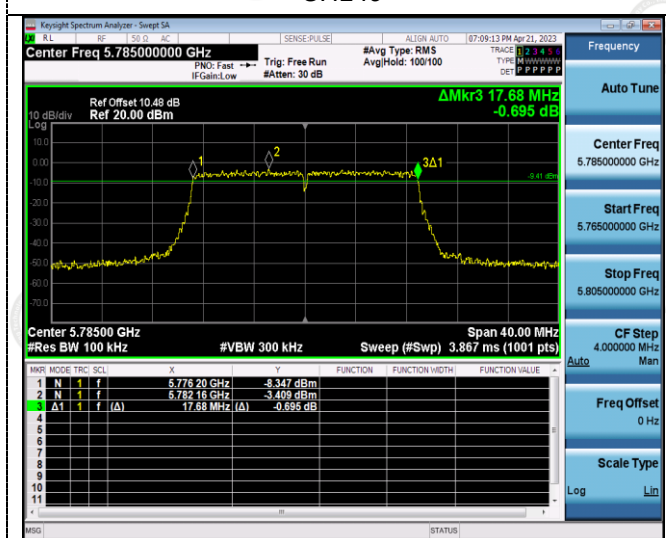
802.11ax(HT20)



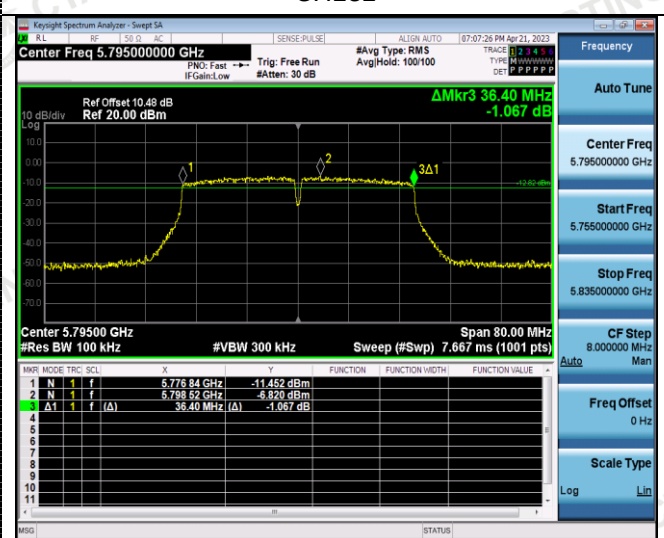
802.11ax(HT40)



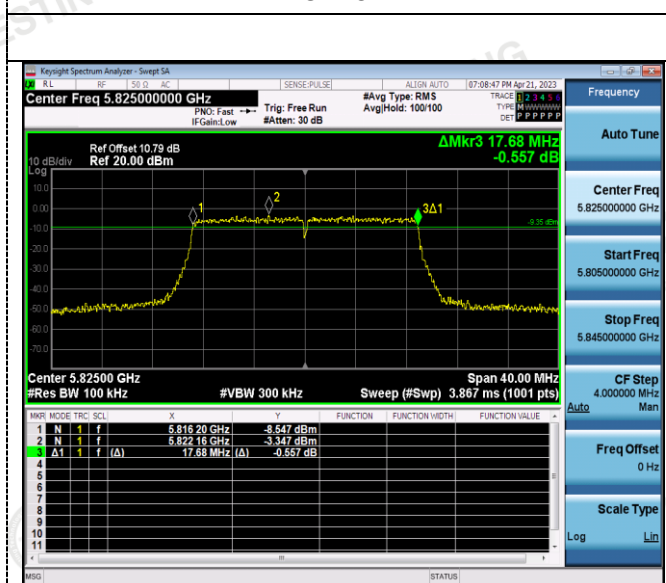
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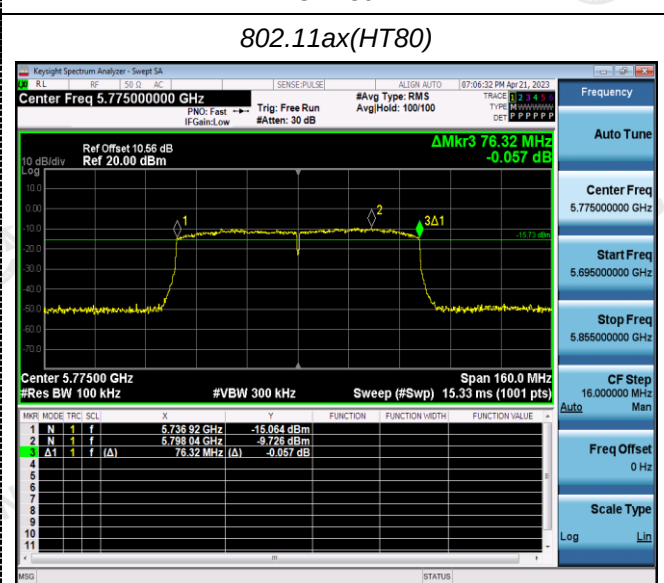
CH151



CH157



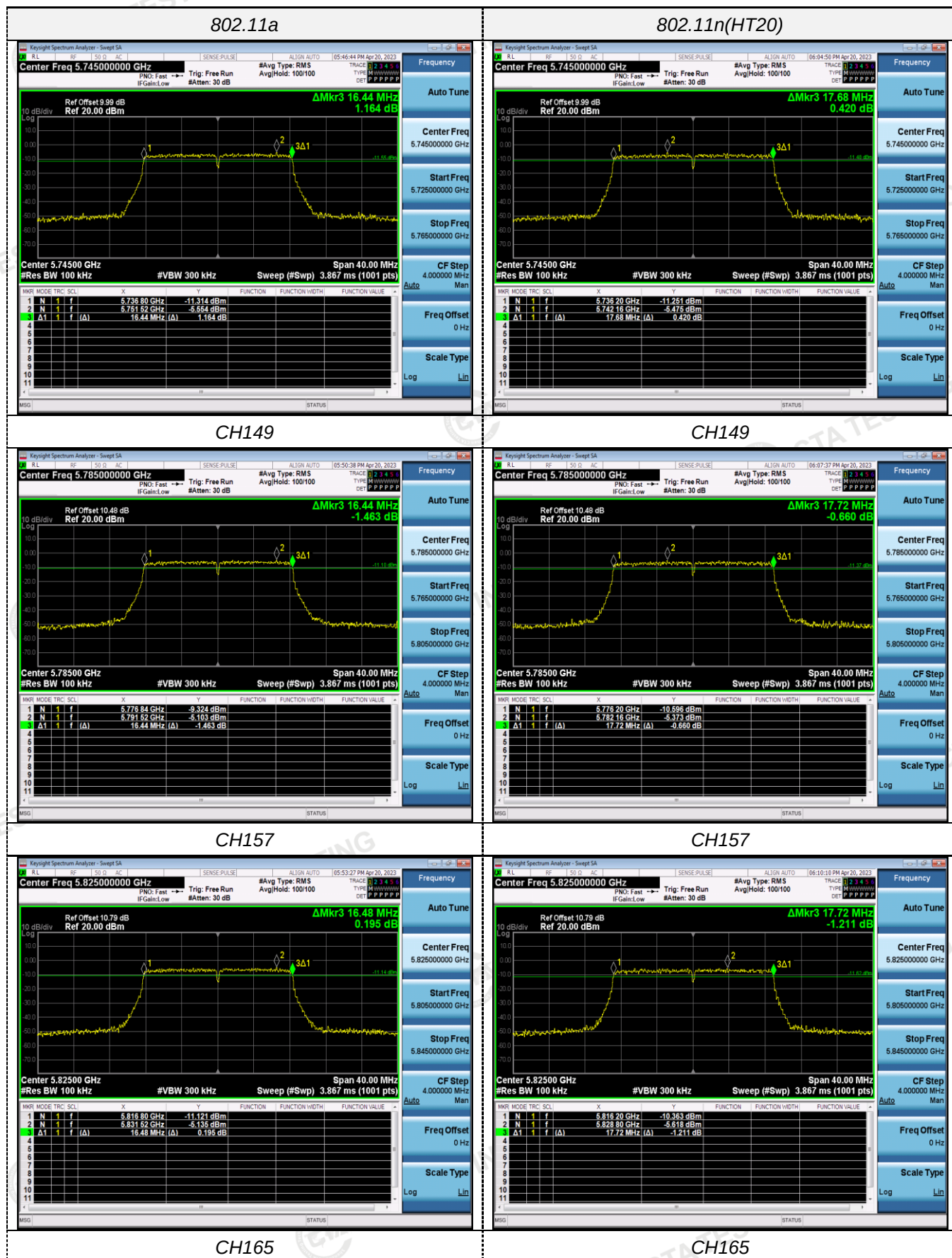
CH159



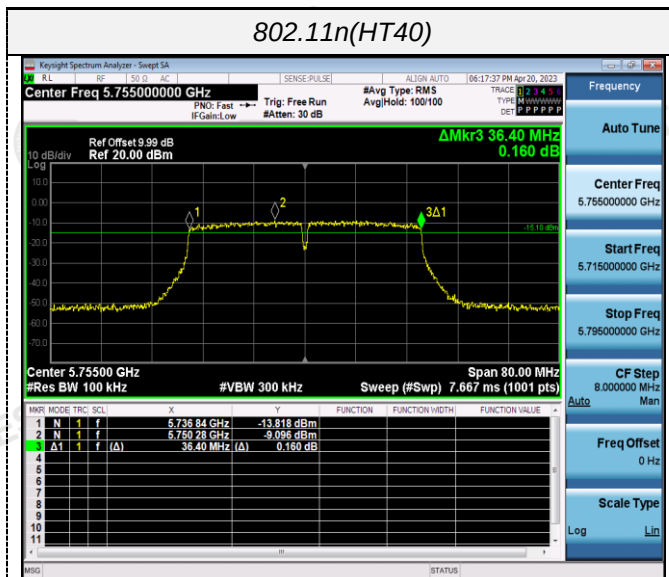
CH156

CH155

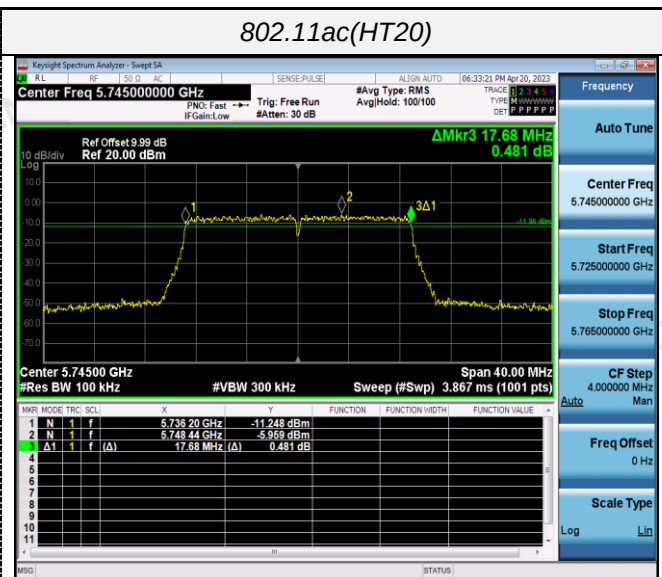
ANT 2



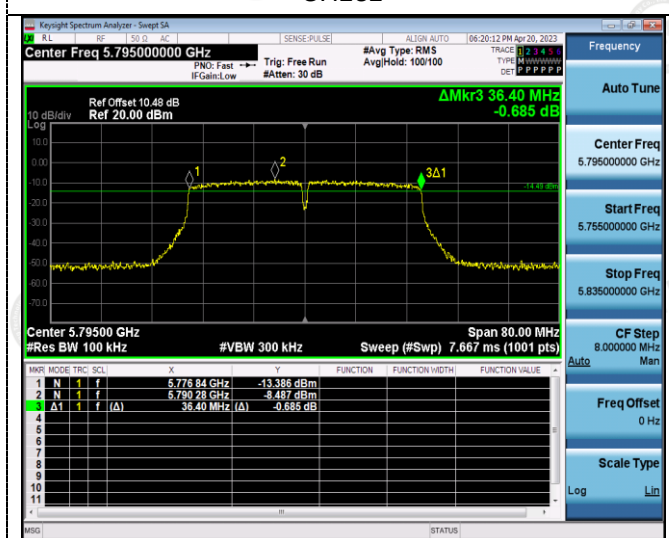
802.11n(HT40)



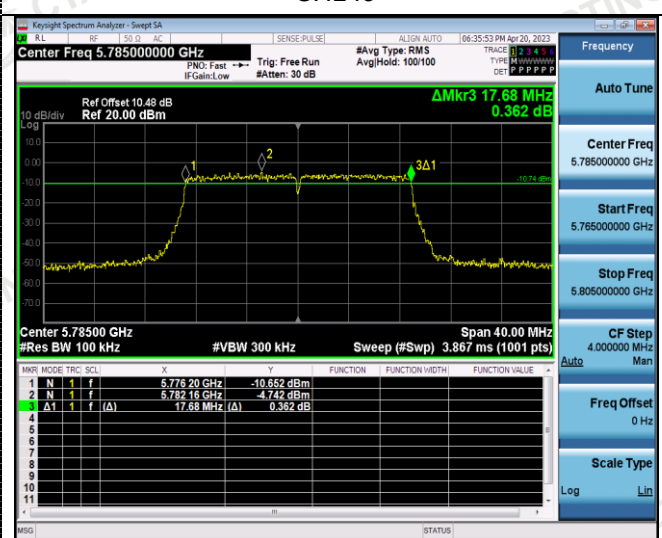
802.11ac(HT20)



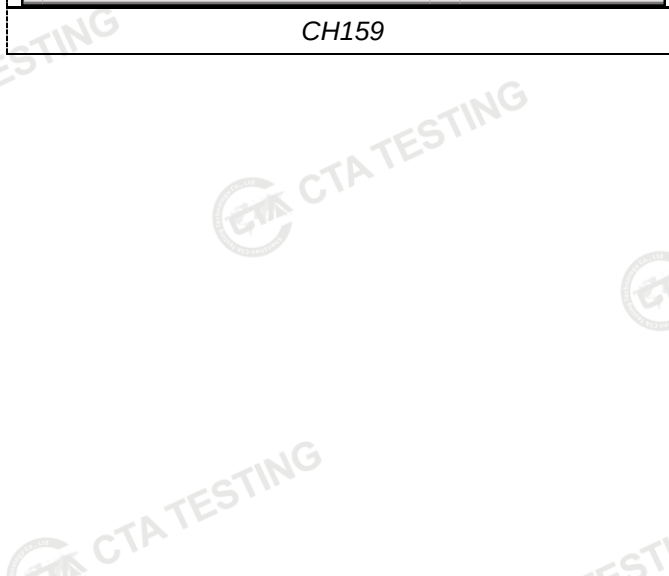
CH151



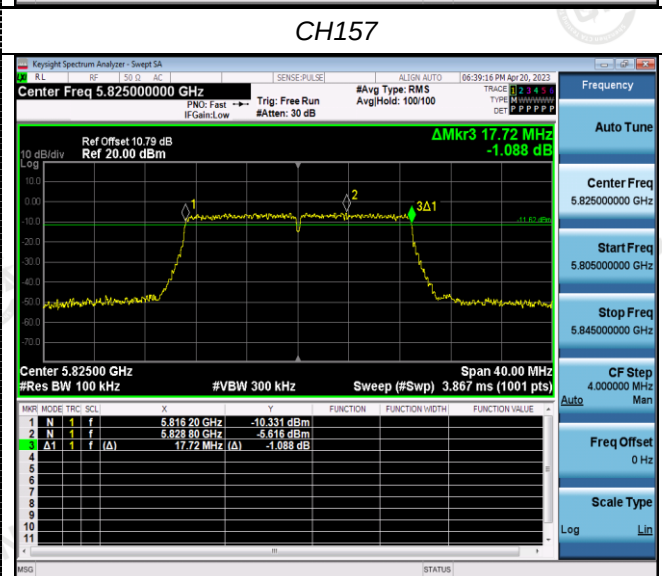
CH149



CH159

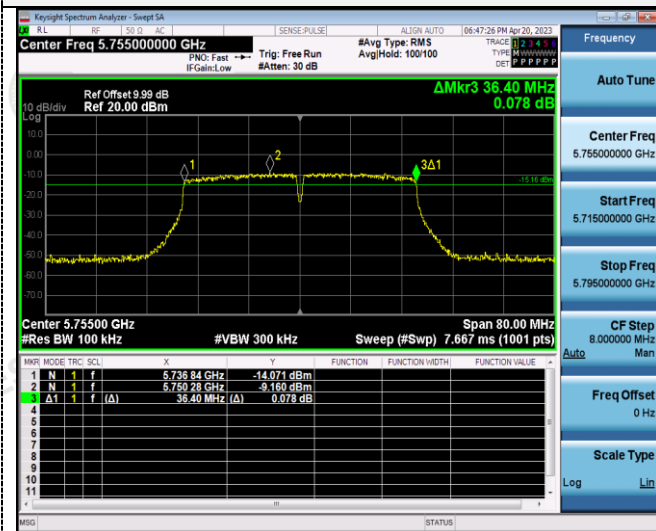


CH157

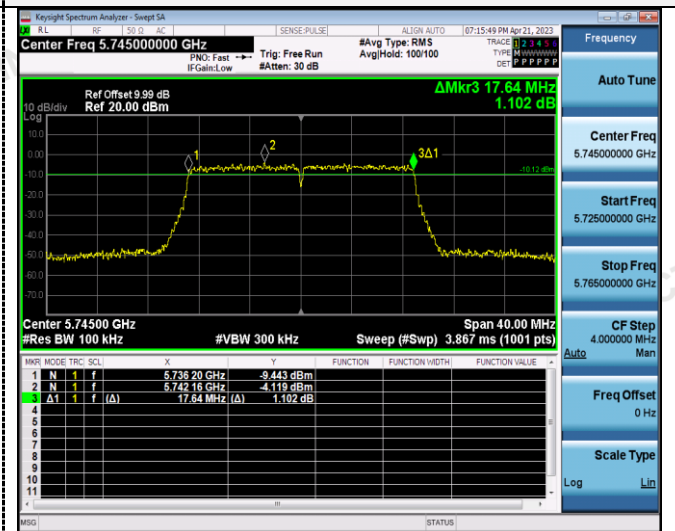


CH165

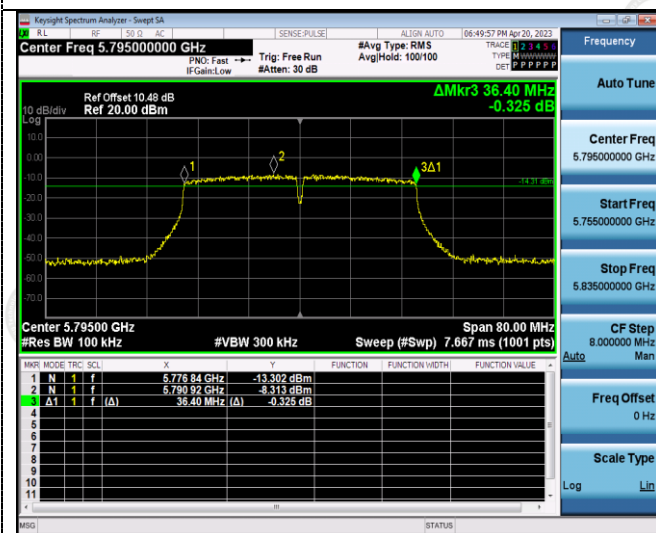
802.11ac(HT40)



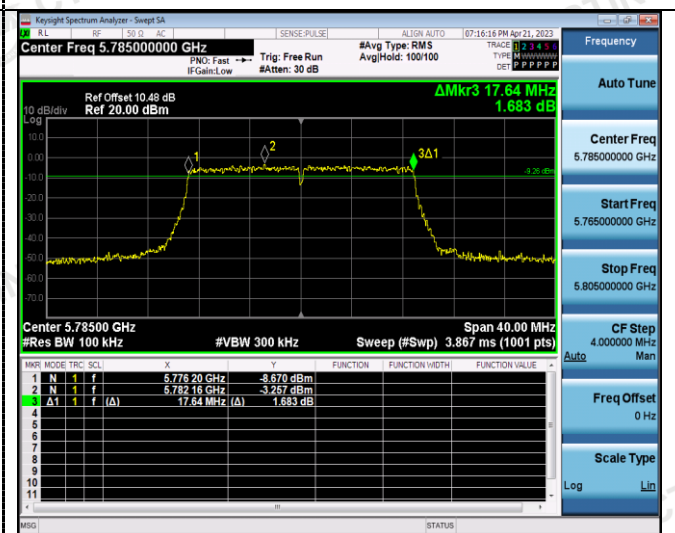
802.11ax(HT20)



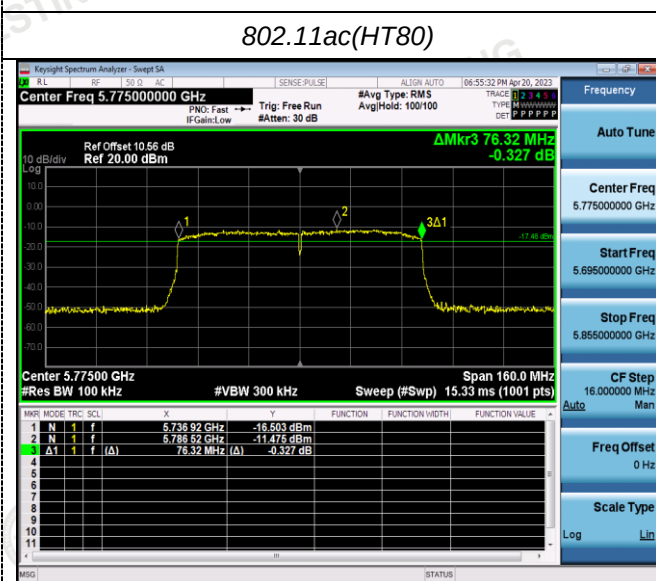
CH151



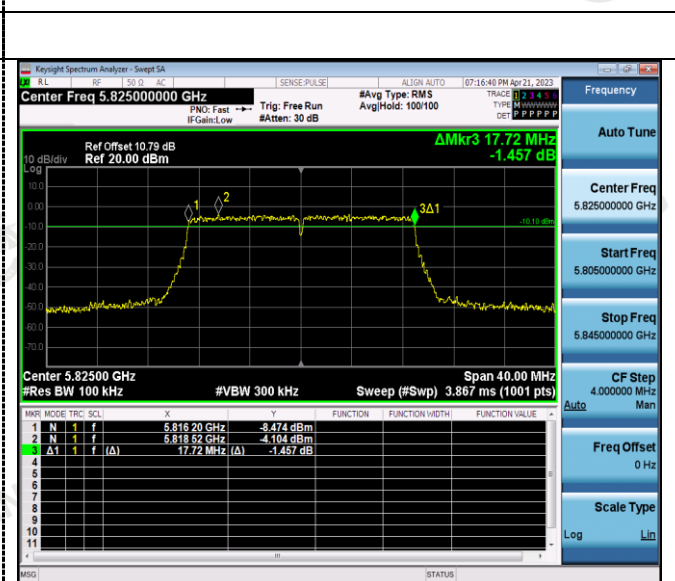
CH149



CH159

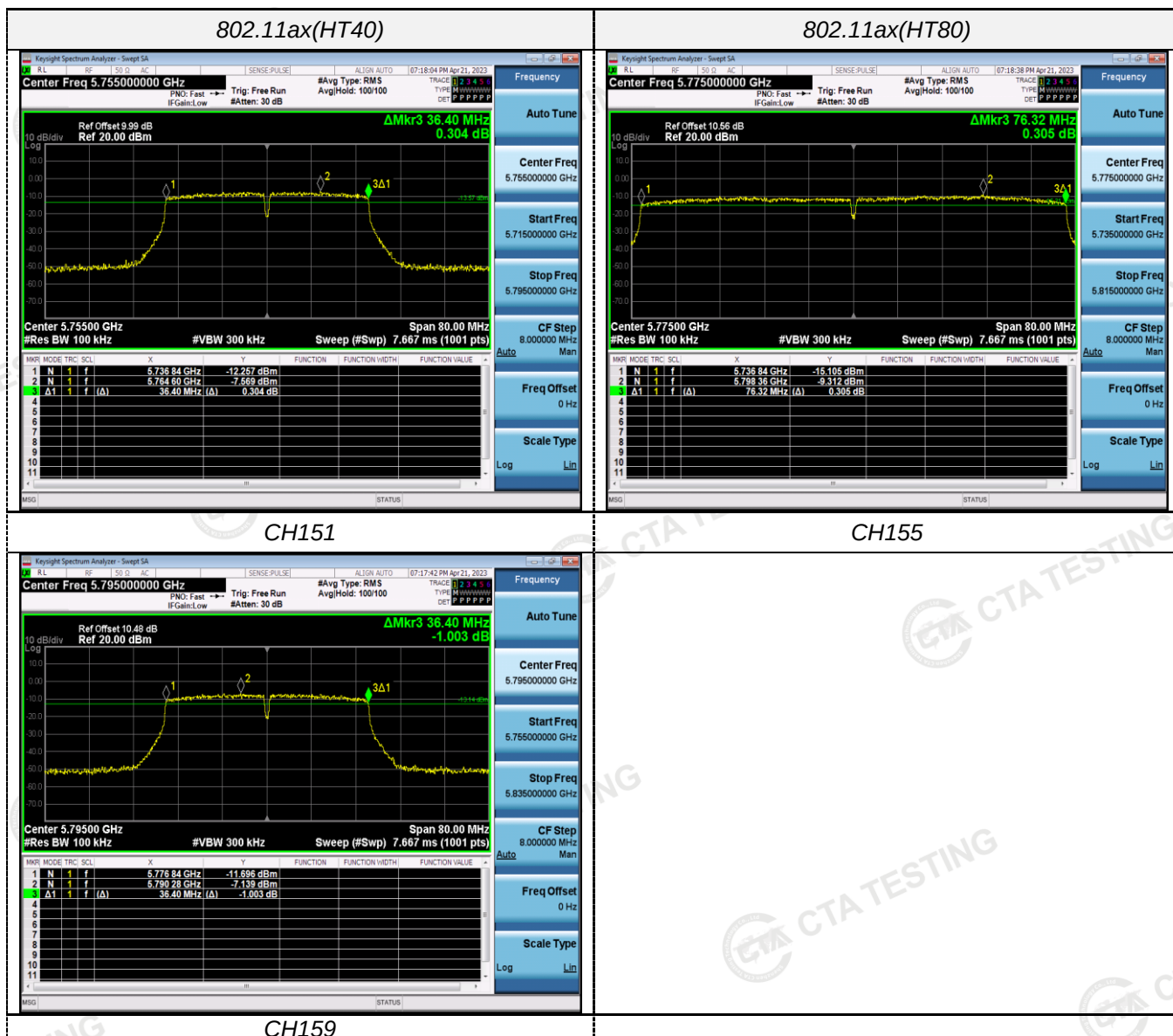


CH157



CH155

CH165

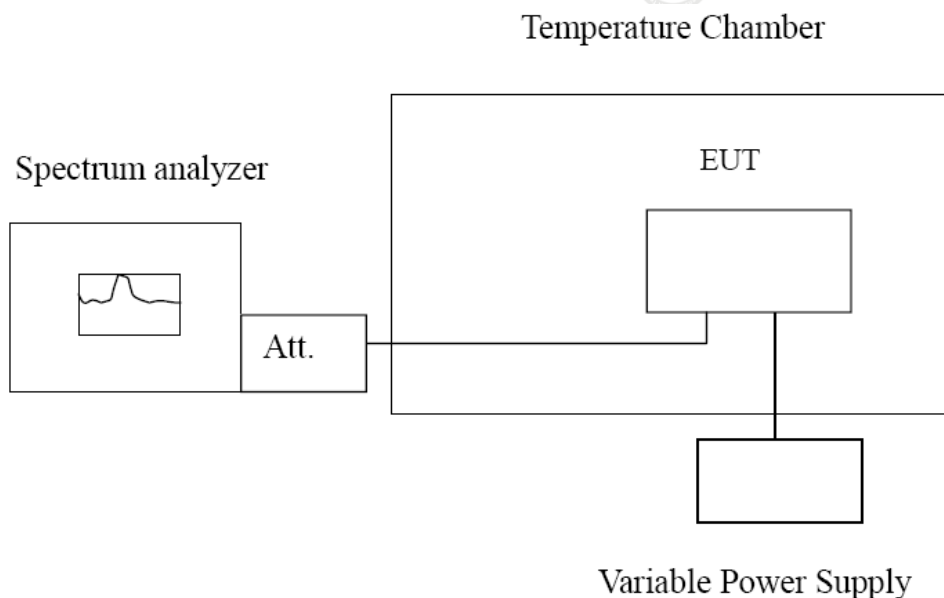


4.7 Frequency Stability

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:

Ant1:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 120V	-30	112.34	0.021687	Within the band of operation	Pass
	-20	171.52	0.033112		
	-10	137.29	0.026504		
	0	112.03	0.021627		
	10	141.66	0.027347		
	20	99.86	0.019278		
	30	164.42	0.031741		
	40	127.79	0.024670		
	50	128.21	0.024751		
AC 132V	25	192.50	0.037162	Within the band of operation	Pass
AC 108V	25	114.73	0.022149		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 120V	-30	135.67	0.023615	Within the band of operation	Pass
	-20	128.43	0.022355		
	-10	166.47	0.028977		
	0	166.98	0.029065		
	10	133.15	0.023177		
	20	128.46	0.022360		
	30	112.57	0.019594		
	40	168.34	0.029302		
	50	156.19	0.027187		
AC 132V	25	148.25	0.025805	Within the band of operation	Pass
AC 108V	25	115.73	0.020144		

Ant2:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 120V	-30	112.69	0.021755	Within the band of operation	Pass
	-20	169.23	0.032670		
	-10	138.76	0.026788		
	0	112.80	0.021776		
	10	143.35	0.027674		
	20	96.58	0.018645		
	30	164.71	0.031797		
	40	126.95	0.024508		
	50	127.08	0.024533		
AC 132V	25	192.14	0.037093	Within the band of operation	Pass
AC 108V	25	115.27	0.022253		

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 120V	-30	135.90	0.023655	Within the band of operation	Pass
	-20	129.45	0.022533		
	-10	167.74	0.029198		
	0	168.26	0.029288		
	10	136.09	0.023688		
	20	141.16	0.024571		
	30	116.86	0.020341		
	40	165.21	0.028757		
	50	160.70	0.027972		
AC 132V	25	149.32	0.025991	Within the band of operation	Pass
AC 108V	25	116.18	0.020223		

4.8 Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1) (I):

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result:

The maximum gain of antenna as follows:

For 5180-5240MHz: 0.86 dBi for Ant 0 and Ant1

For 5745-5825MHz: 1.40 dBi for Ant 0 and Ant1

Remark: The antenna gain is provided by the customer, if the data provided by the customer is not accurate, Shenzhen CTA Testing Technology Co., Ltd. does not assume any responsibility.

1 Test Setup Photos of the EUT

Please refer to separated files for Test Setup Photos of the EUT.

2 Photos of the EUT

Please refer to separated files for External & Internal Photos of the EUT.

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