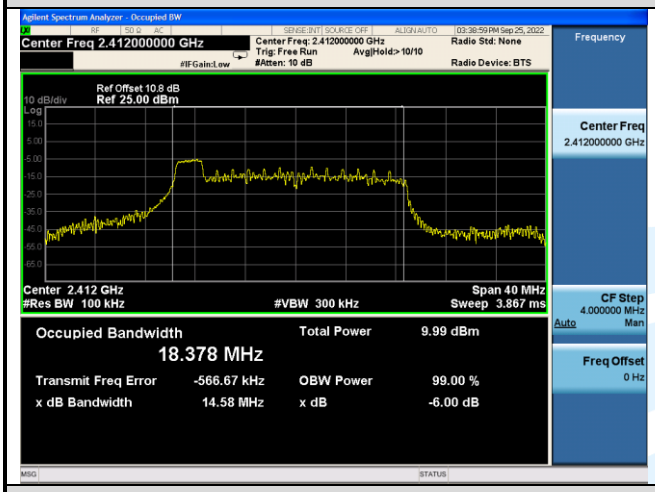
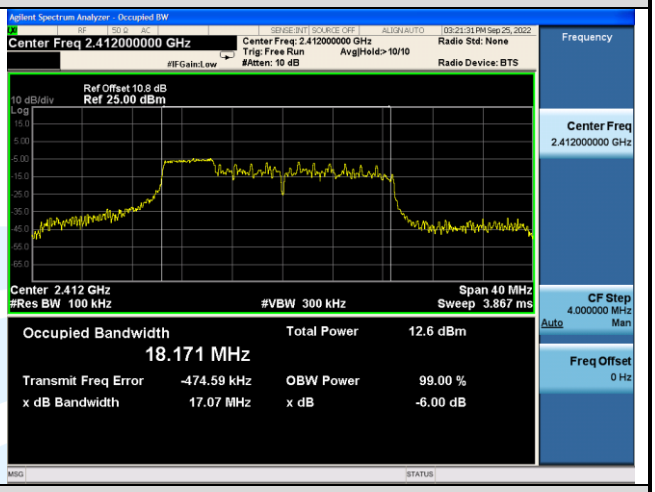
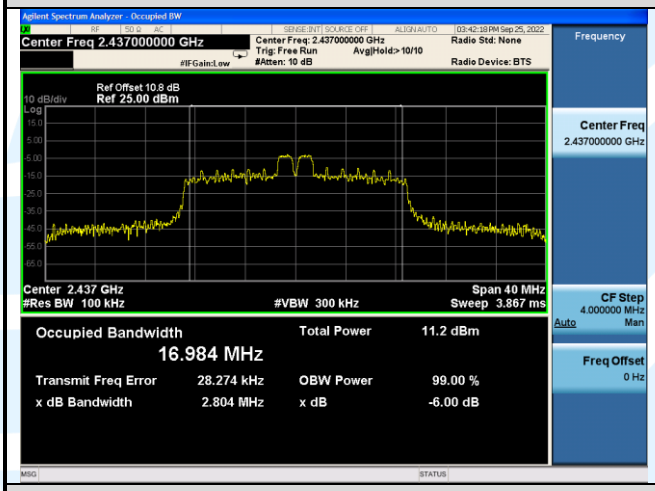
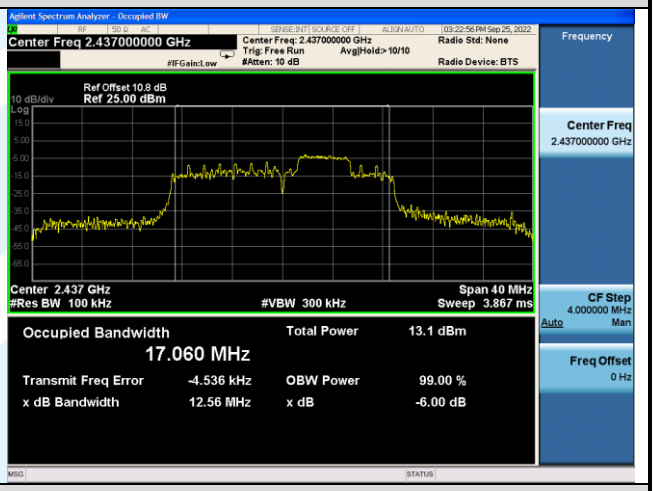
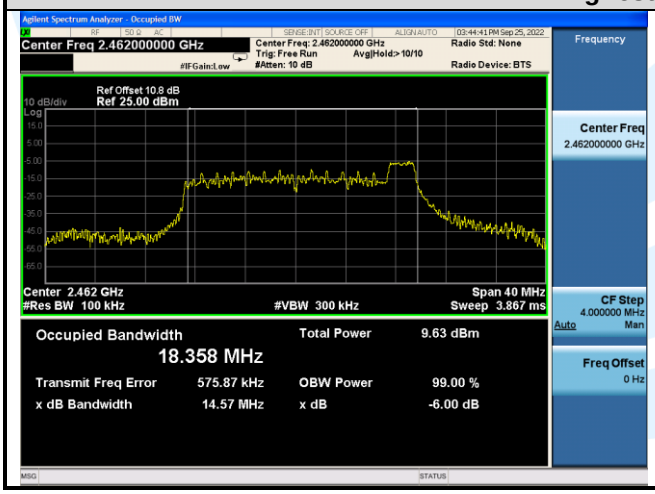
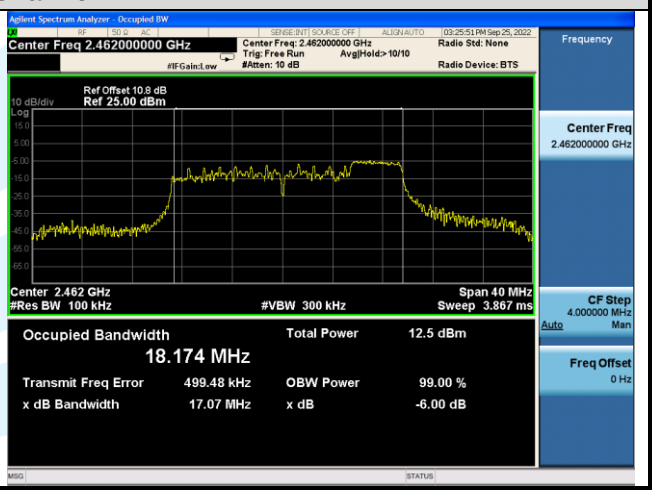
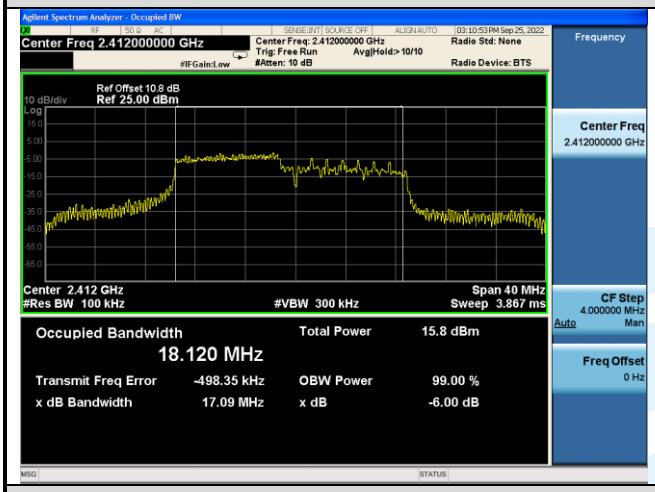
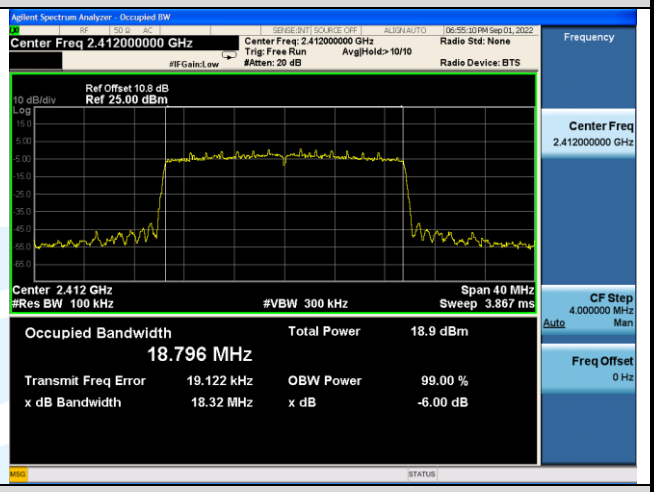
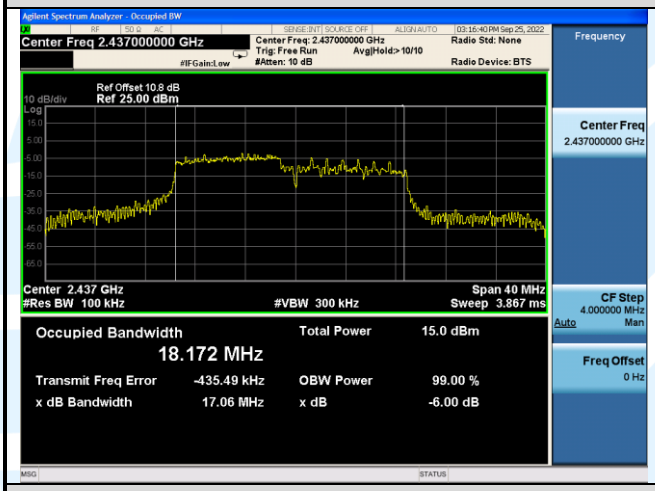
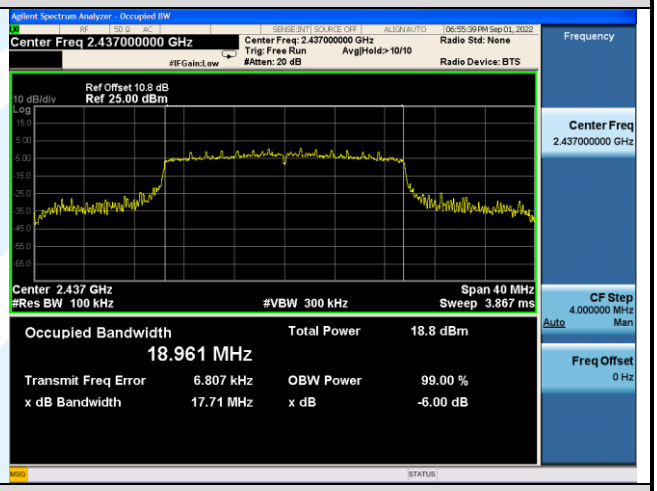
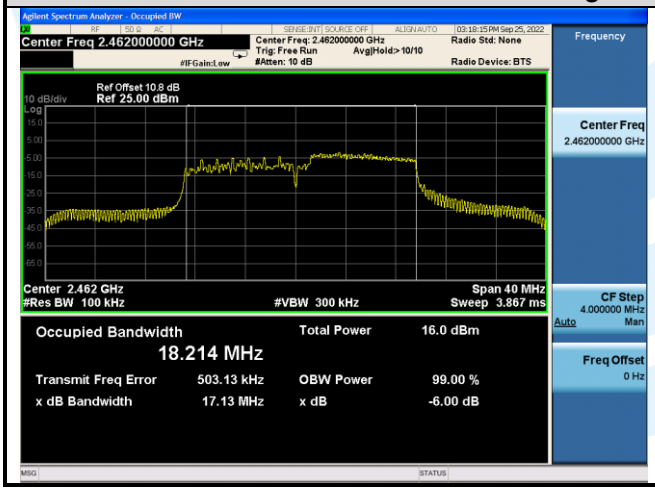
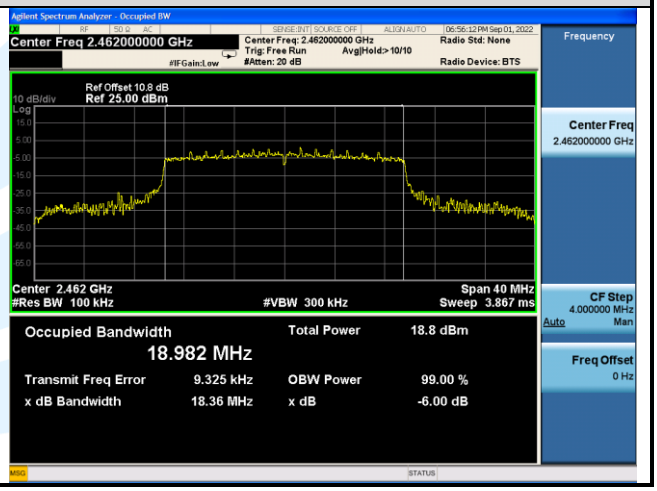
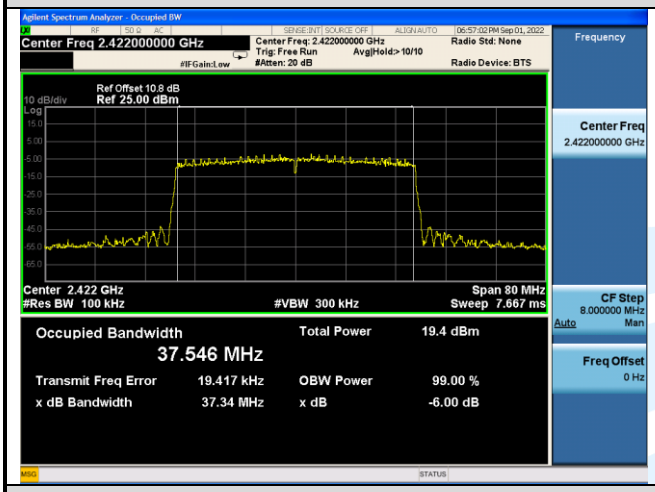
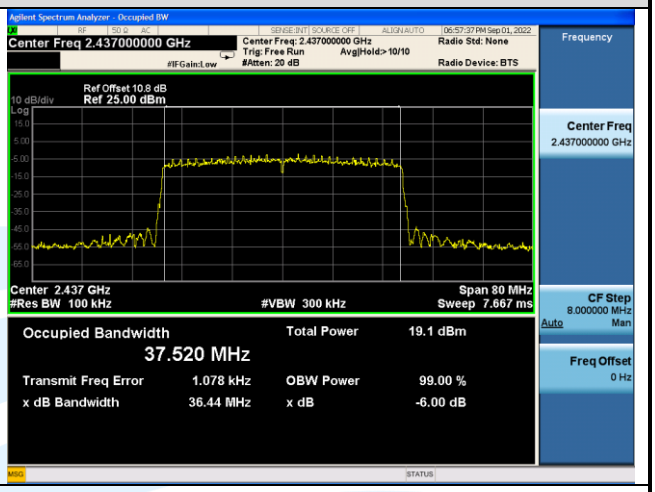
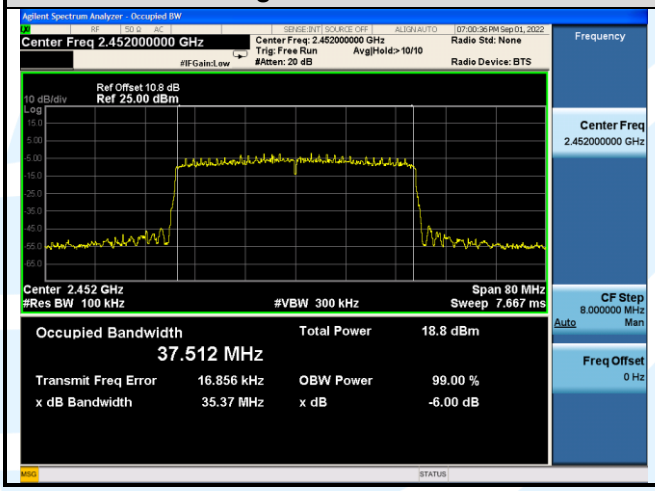
IEEE 802.11ax_HE20_26RU	IEEE 802.11ax_HE20_52RU
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

IEEE 802.11ax_HE20_106RU	IEEE 802.11ax_HE20_SU
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

IEEE 802.11ax_HE40	
Lowest Channel	**Middle Channel**
	
Highest Channel	
	

5.5 POWER SPECTRAL DENSITY

Test Requirement: FCC 47 CFR Part 15 Subpart C Section 15.247 (e)

Test Method: ANSI C63.10-2013 Clause 11.10.2

Limit: For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

Test Procedure: Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

Use the following spectrum analyzer settings:

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ 3 x RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.5.3 for details.

Instruments Used: Refer to section 3 for details

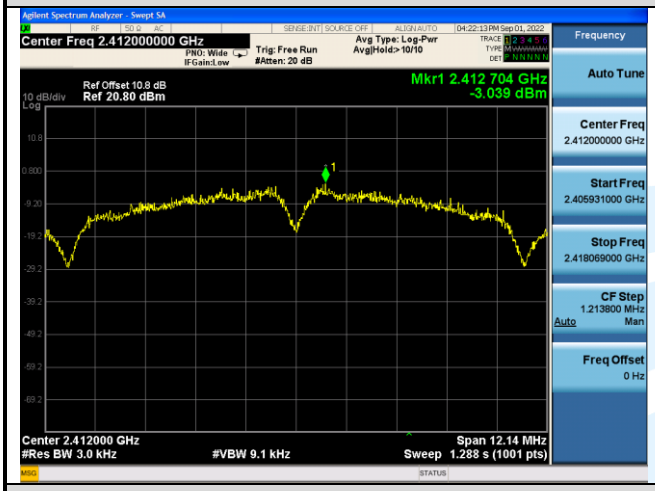
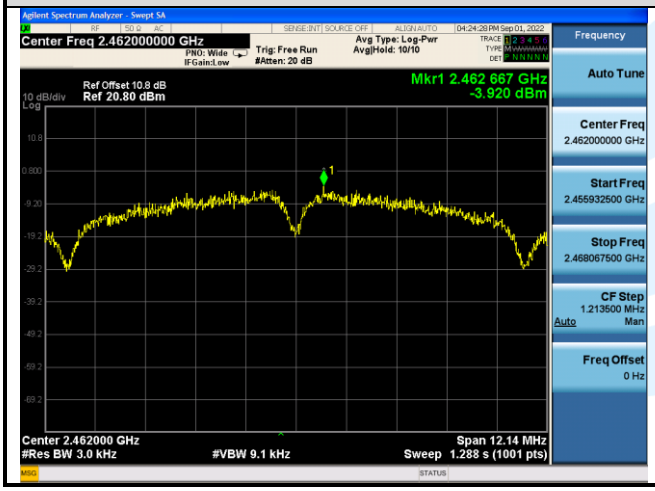
Test Results:

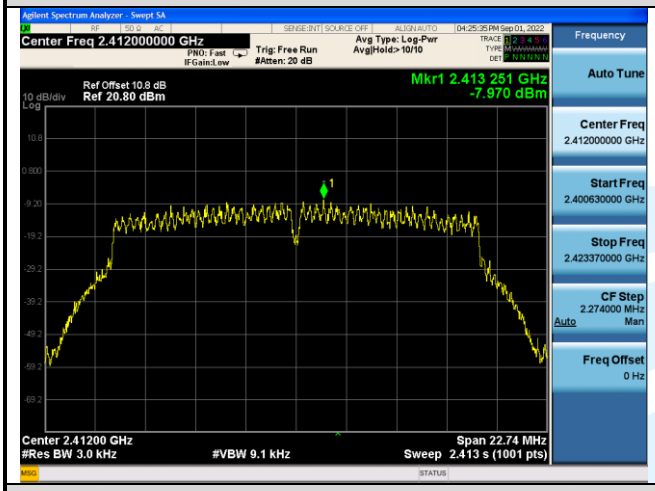
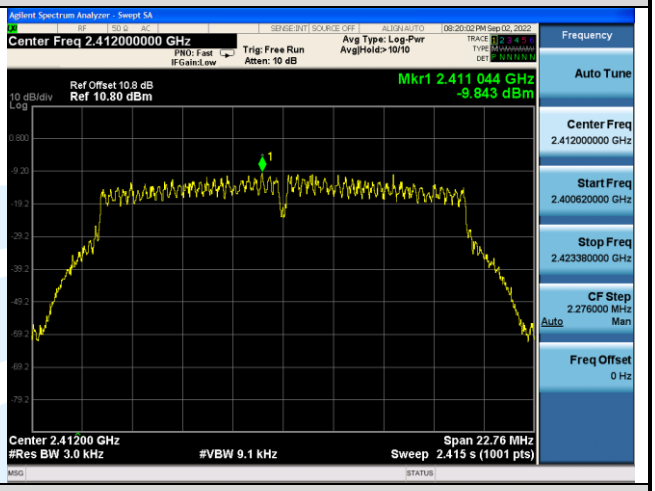
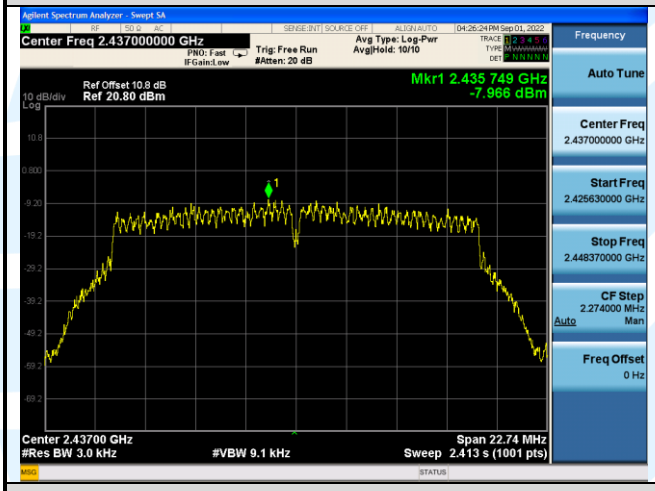
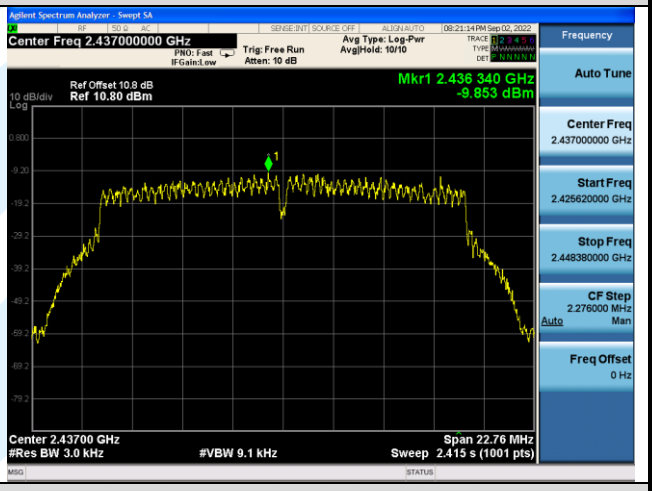
Mode	Channel/ Frequency (MHz)	RU & Index	SISO_ Chain 1	SISO_ Chain 1	"Total Power MIMO_ Chain 0+1"	PSD Limit (dBm/3kHz)	Pass / Fail
IEEE 802.11b	1(2412)	N/A	-3.039	-3.793	N/A	8	Pass
	6(2437)	N/A	-4.521	-3.240	N/A	8	Pass
	11(2462)	N/A	-3.920	-4.054	N/A	8	Pass
IEEE 802.11g	1(2412)	N/A	-7.970	-9.843	N/A	8	Pass
	6(2437)	N/A	-7.966	-9.853	N/A	8	Pass
	11(2462)	N/A	-8.356	-9.638	N/A	8	Pass
IEEE 802.11n-HT20	1(2412)	N/A	-12.044	-10.275	-8.06	5.99	Pass
	6(2437)	N/A	-11.263	-11.106	-8.17	5.99	Pass
	11(2462)	N/A	-12.160	-11.110	-8.59	5.99	Pass
IEEE 802.11ax-HE20	1(2412)	26RU4	-19.34	-18.609	-15.95	5.99	Pass
		52RU39	-17.749	-18.317	-15.01	5.99	Pass
		106RU53	-16.370	-16.533	-13.44	5.99	Pass
		SU	-14.327	-13.855	-11.07	5.99	Pass
	6(2437)	26RU4	-17.833	-17.014	-14.39	5.99	Pass
		52RU39	-17.317	-16.219	-13.72	5.99	Pass
		106RU53	-16.351	-15.765	-13.04	5.99	Pass
		SU	-14.237	-14.262	-11.24	5.99	Pass
	11(2462)	26RU4	-19.397	-18.880	-16.12	5.99	Pass
		52RU39	-17.282	-17.902	-14.57	5.99	Pass
		106RU53	-15.304	-16.395	-12.81	5.99	Pass
		SU	-14.776	-14.709	-11.73	5.99	Pass
IEEE	3(2422)	N/A	-13.243	-13.382	-10.30	5.99	Pass

802.11n-HT40	6(2437)	N/A	-13.615	-12.648	-10.09	5.99	Pass
	9(2452)	N/A	-12.744	-13.594	-10.14	5.99	Pass
IEEE 802.11ax-HE40	3(2422)	SU	-18.162	-17.284	-14.69	5.99	Pass
	6(2437)	SU	-16.727	-16.923	-13.81	5.99	Pass
	9(2452)	SU	-18.036	-16.948	-14.45	5.99	Pass

Remark:
1. Power with Duty Factor = Measured Power + Duty Cycle Factor
2. Total (Chain 0+1) = $10*\log[(10^{\text{Chain 0}/10})+(10^{\text{Chain 1}/10})]$
3. Directional gain and the maximum conducted power spectral density limit see table below:

Frequency Band	Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated chains directional gain (dBi)	Peak Power Limit (dBm)
2400 MHz to 2483.5 MHz	5.00	5.00	8.01	5.99
Basic methodology with N_{ANT} transmit antennas, each with the same directional gain G_{ANT} dBi, being driven by N_{ANT} transmitter outputs of equal power. Directional gain is to be computed as follows:				
If *any* transmit signals are *correlated* with each other,				
Directional gain = $G_{ANT} + 10 \log(N_{ANT})$ dBi				

IEEE 802.11b	
SISO_ Chain 0	SISO_ Chain 1
Channel 1	
	
Channel 6	
	
Channel 11	
	

IEEE 802.11g	
SISO_ Chain 0	SISO_ Chain 1
Channel 1	
	
Channel 6	
	
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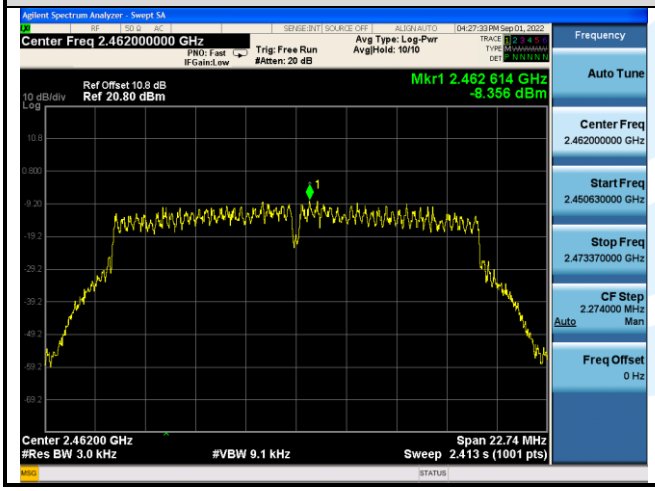
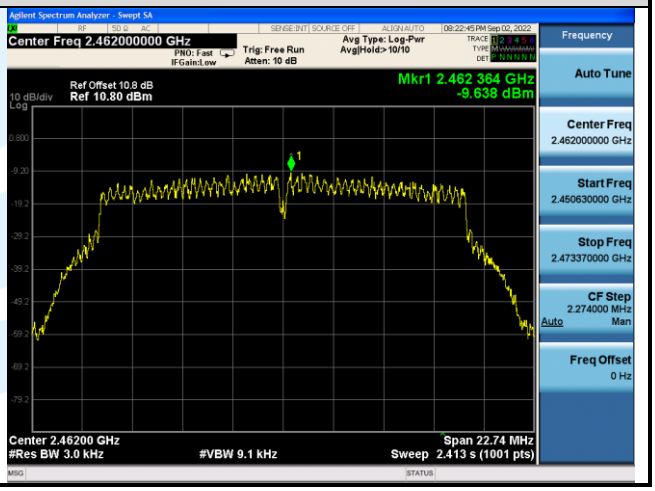
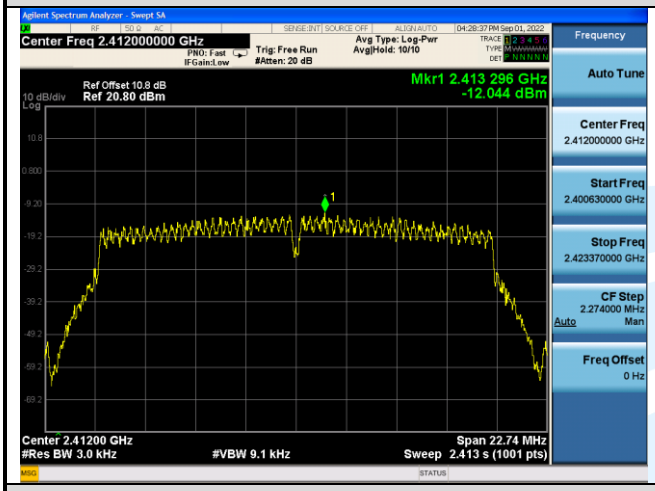
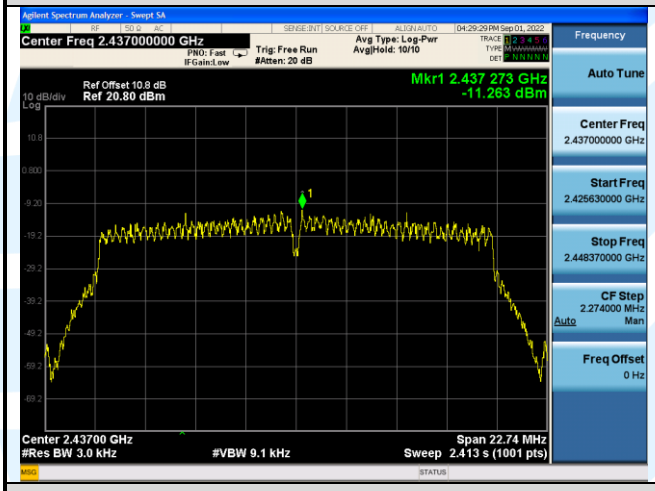
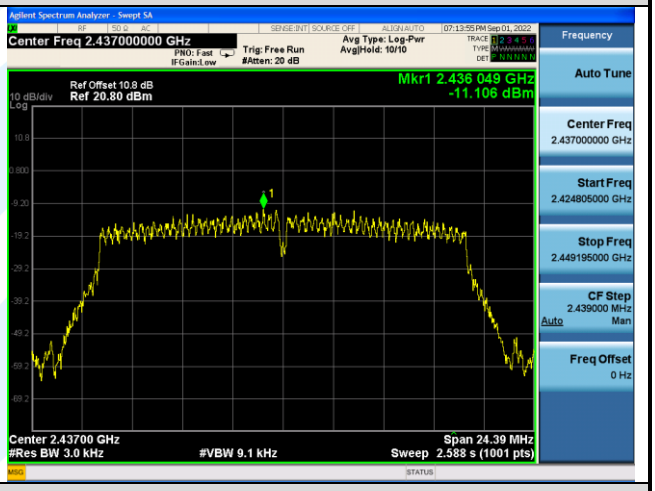
	

IEEE 802.11n-HT20	
MIMO_ Chain 0	MIMO_ Chain 1
Channel 1	
	
Channel 6	
	
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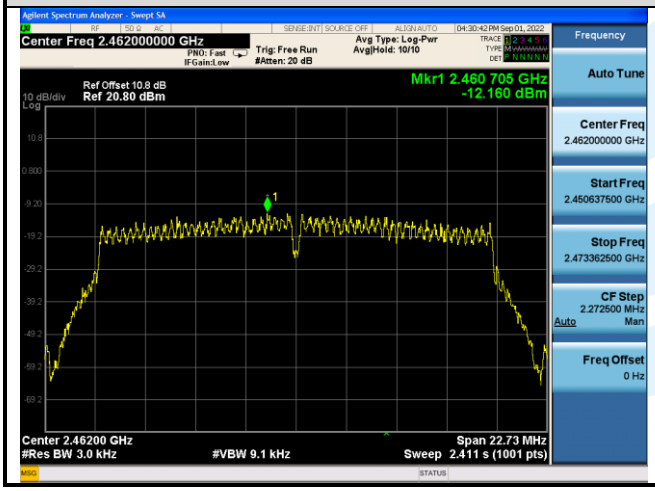
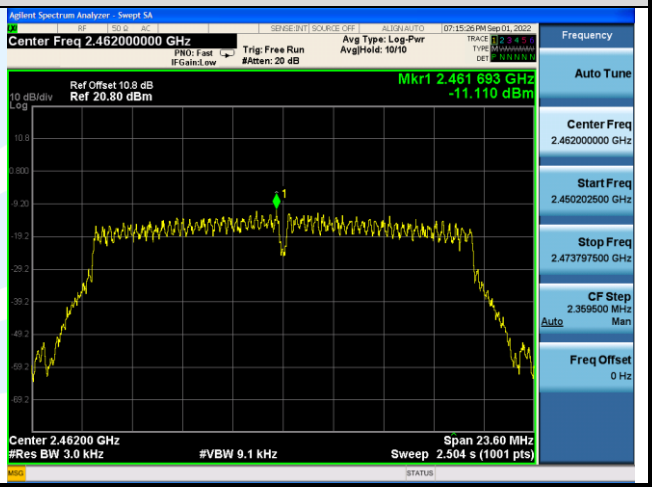
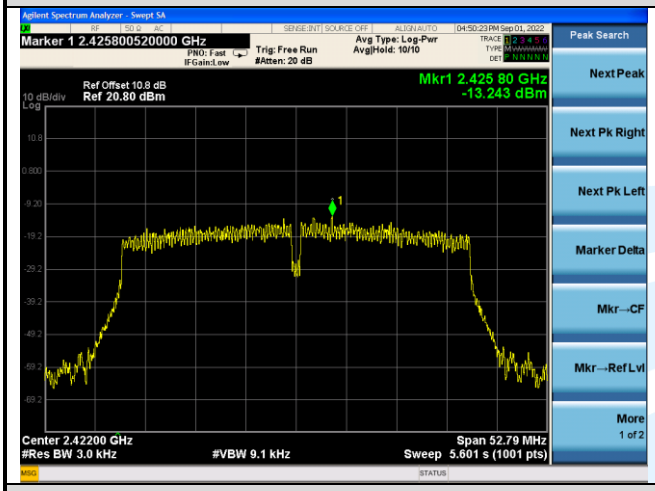
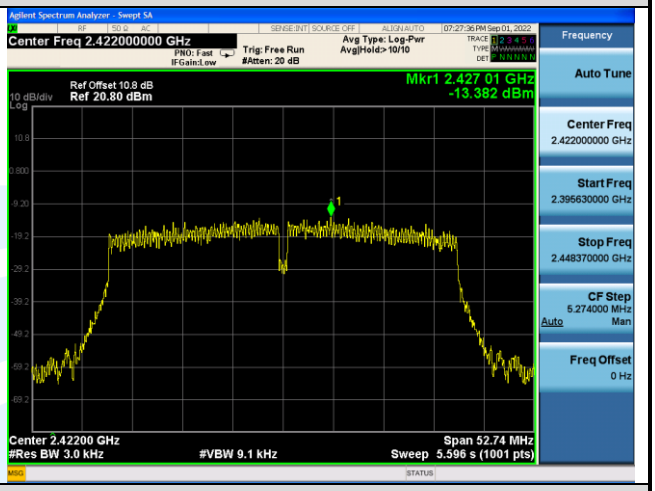
	

IEEE 802.11n-HT40	
MIMO_ Chain 0	MIMO_ Chain 1
Channel 3	
	
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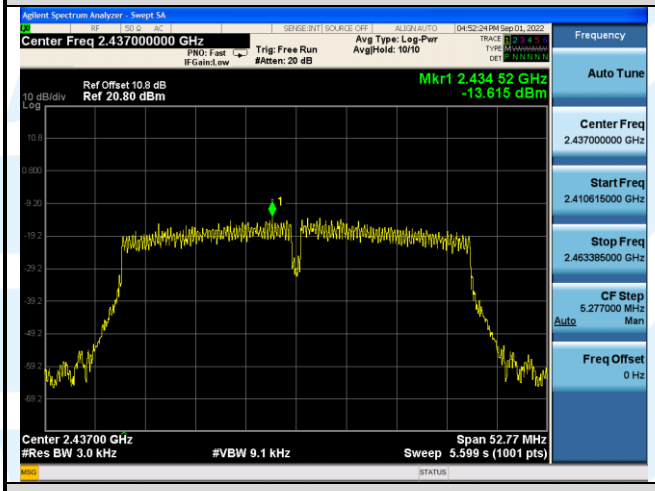	
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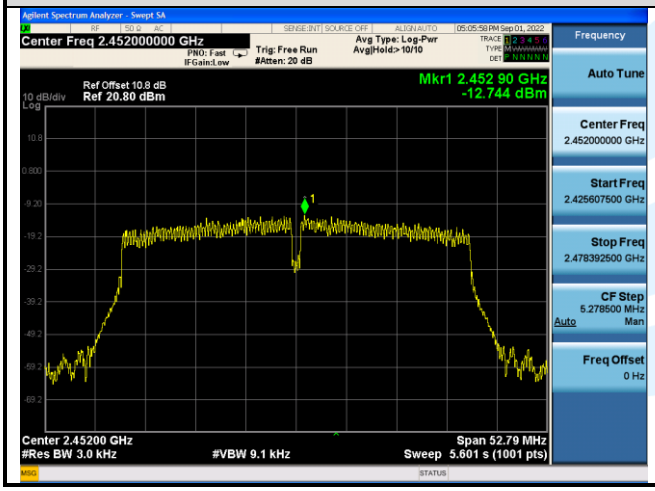
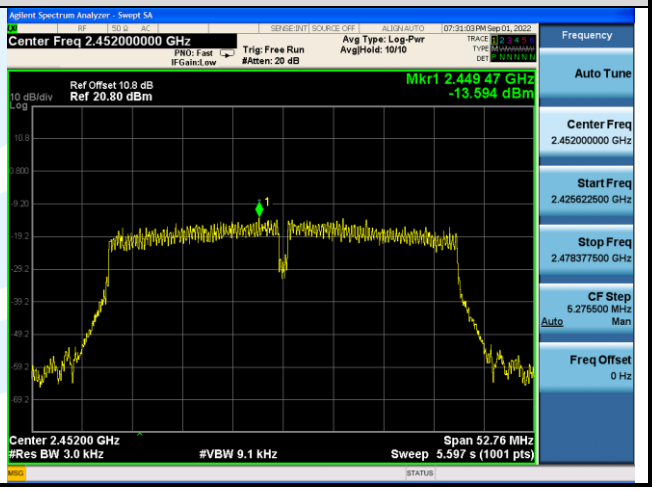
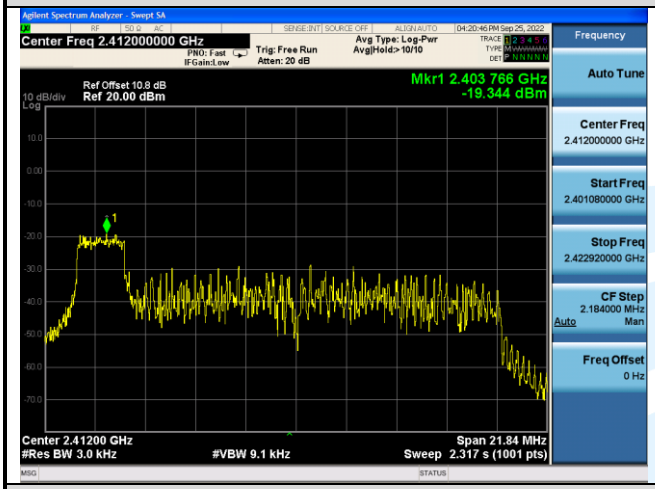
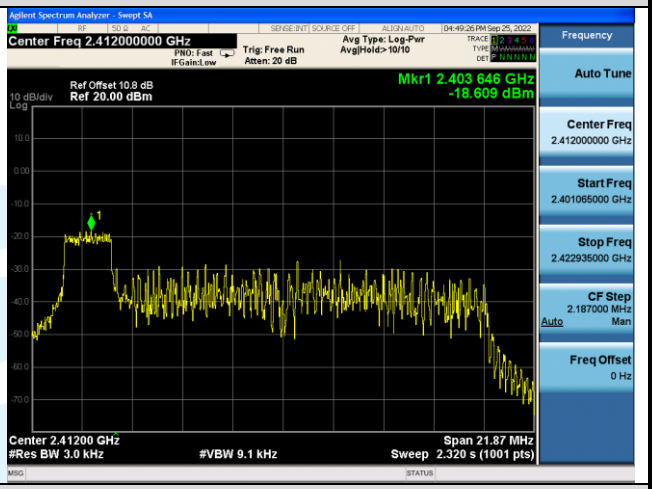
	

IEEE 802.11ax_HE20_26RU	
MIMO_ Chain 0	MIMO_ Chain 1
Channel 1	
	
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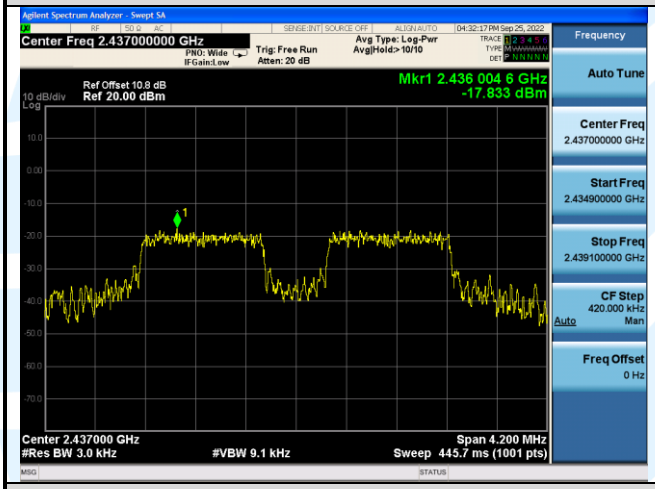
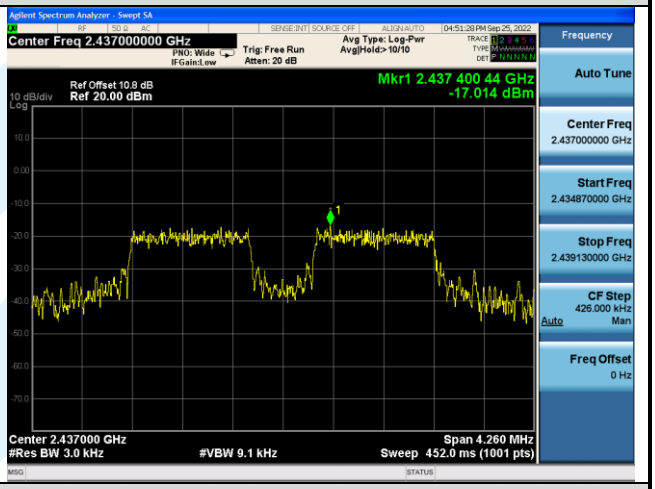
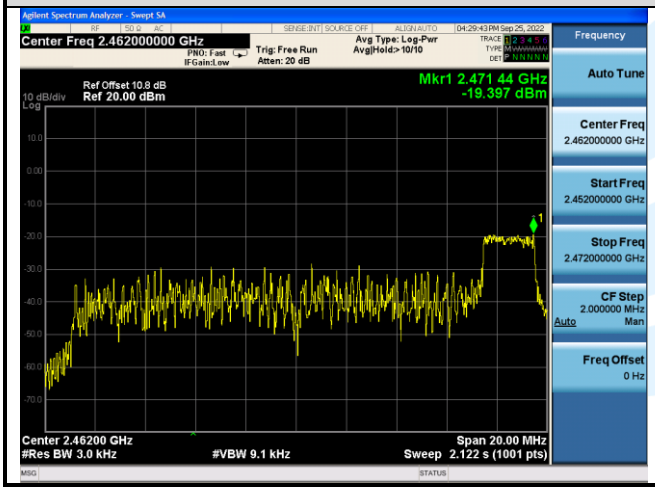
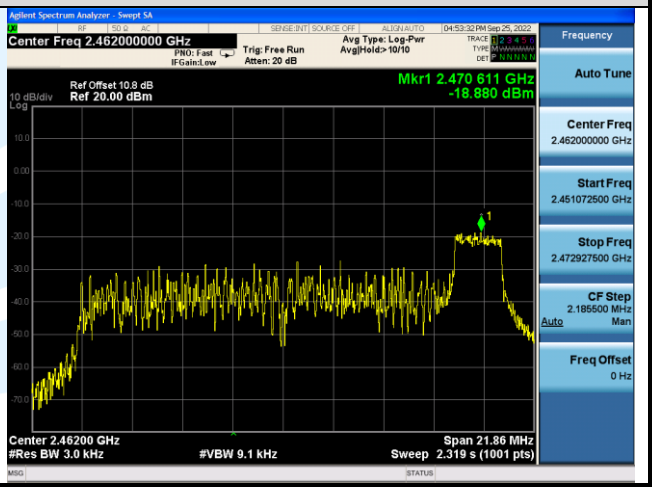
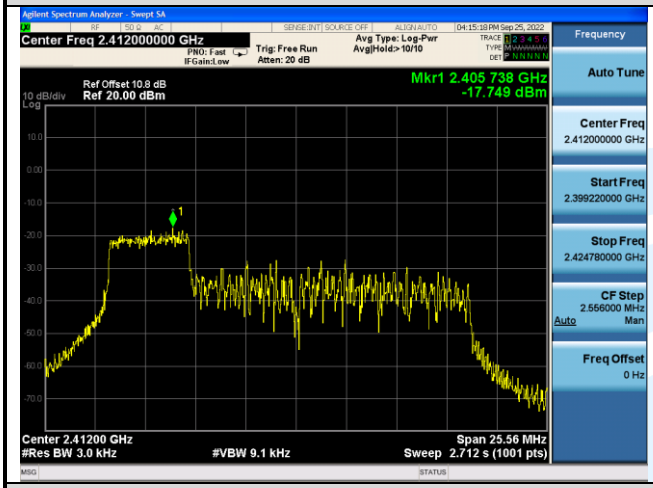
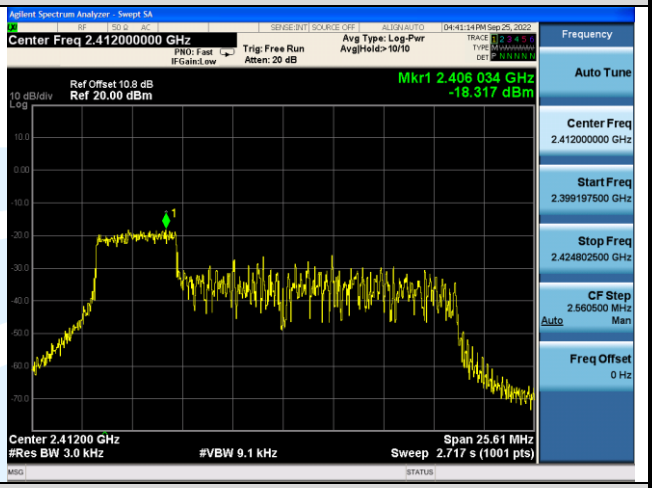
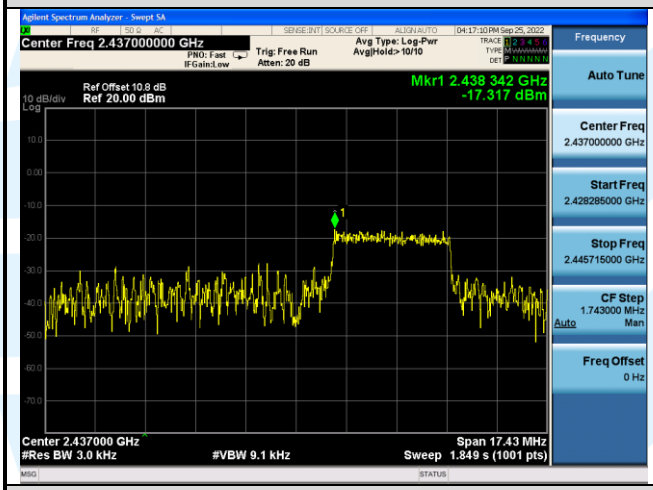
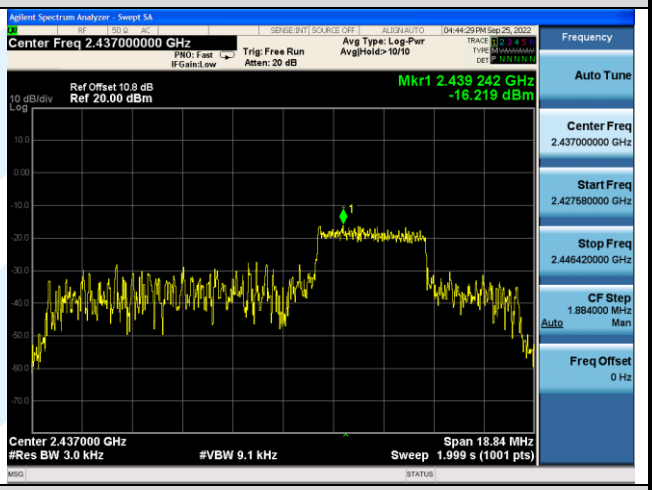
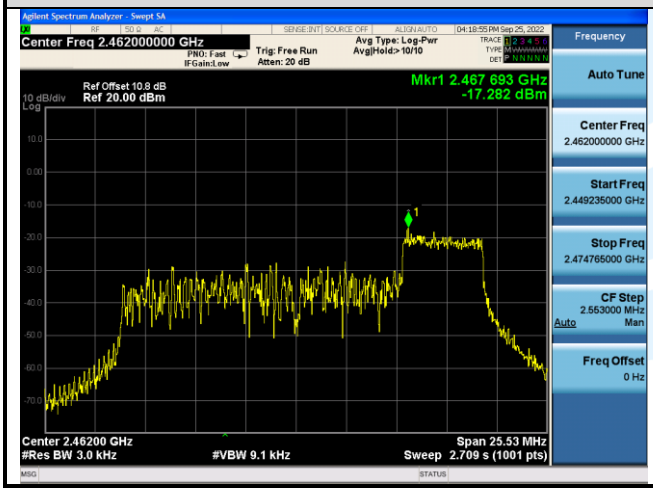
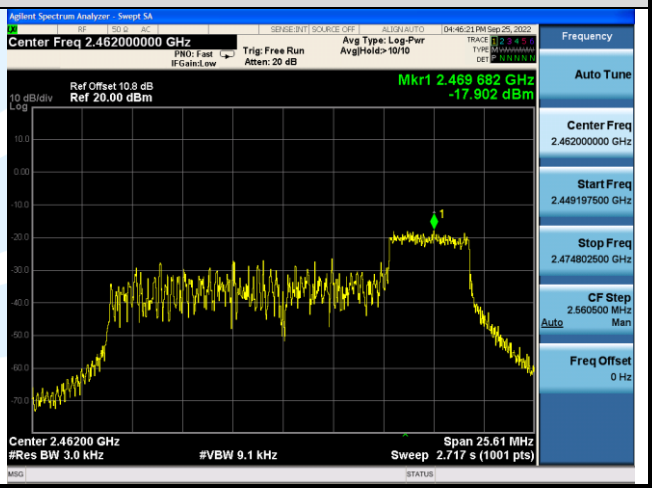
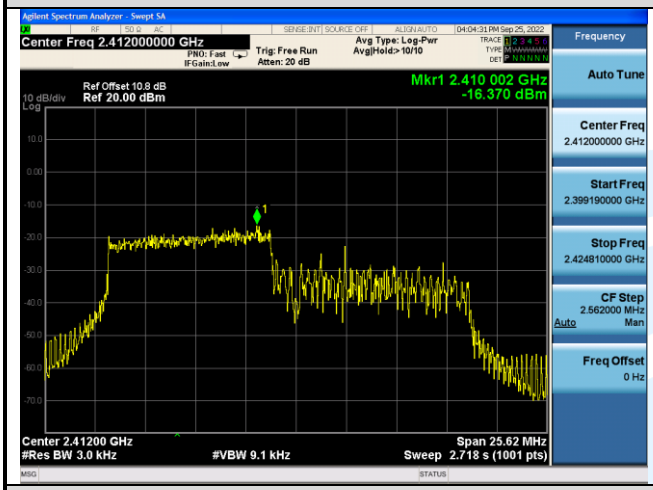
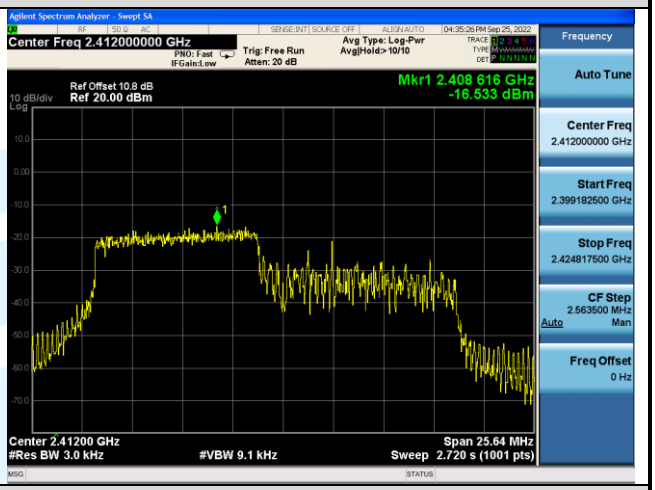
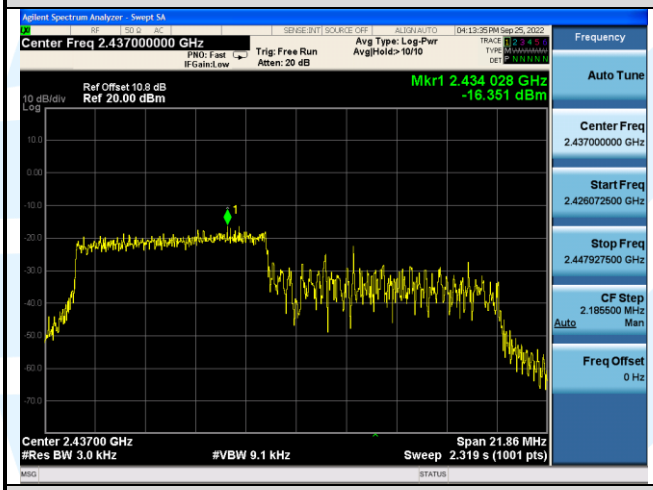
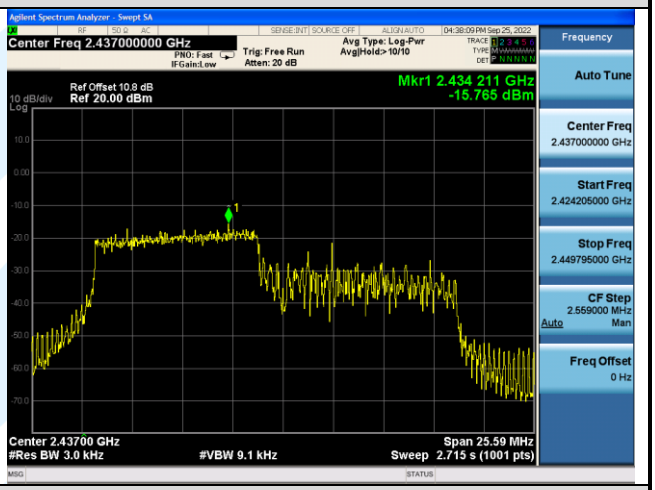
	
Channel 11	
	

IEEE 802.11ax_HE20_52RU	
MIMO_ Chain 0	MIMO_ Chain 1
Channel 1	
	
Channel 6	
	
Channel 11	
	

IEEE 802.11ax_HE20_106RU	
MIMO_ Chain 0	MIMO_ Chain 1
Channel 1	
	
Channel 6	
	
Channel 11