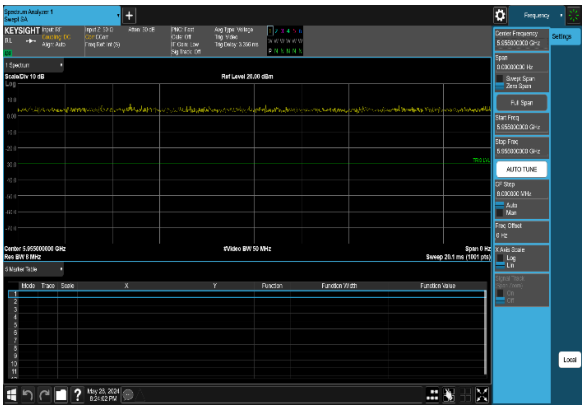
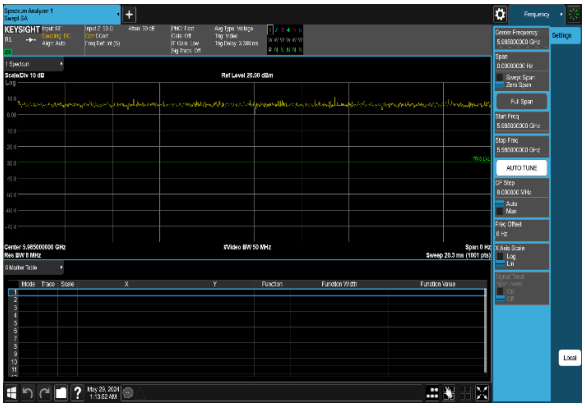
APPENDIX C

1.1 Duty Cycle of Test Signal

Under control of Indoor AP

Duty cycle of test signal is 100 %, duty factor is not required.

802.11a	802.11ax (HE20)
	
802.11ax (HE40)	802.11ax (HE80)
	
802.11ax (HE160)	

1.2 In-Band Emission (Mask) Measurement

1.2.1 Limits of In-Band Emission (Mask) Measurement

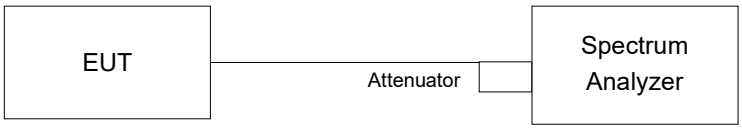
Test Item	Frequencies (MHz)	(X) dBc*1
Emission Mask	At 1 MHz outside of channel edge	20
	At one channel bandwidth from the channel center*2	28
	At one- and one-half times the channel bandwidth away from channel center*3	40
	More than one- and one-half times the channel bandwidth	40

*1 : The power spectral density must be suppressed by “x” dB

*2 : At frequencies between one megahertz outside an unlicensed device’s channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression,

*3 : At frequencies between one and one- and one-half times an unlicensed device’s channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression.

1.2.2 Test Setup



1.2.3 Test Procedure

a. Connect output of the antenna port to a spectrum analyzer and adjust appropriate attenuation.

b. Measure the 26 dB EBW using the test procedure 12.4.1 of ANSI C63.10-2013. (Determine the channel edge.)

c. Measure the power spectral density (for emissions mask reference) using the following procedure:

a) Set the span to encompass the entire 26 dB EBW of the signal.

b) Set RBW = same RBW used for 26 dB EBW measurement.

c) Set VBW ≥ 3 X RBW

d) Number of points in sweep ≥ [2 X span / RBW].

e) Sweep time = auto.

f) Detector = RMS (i.e., power averaging)

g) Trace average at least 100 traces in power averaging (rms) mode.

h) Use the peak search function on the instrument to find the peak of the spectrum.

d. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:

a) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)

b) Suppressed by 28 dB at one channel bandwidth from the channel center.

c) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.

e. Adjust the span to encompass the entire mask as necessary and clear trace.

f. Trace average at least 100 traces in power averaging (rms) mode.

g. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask

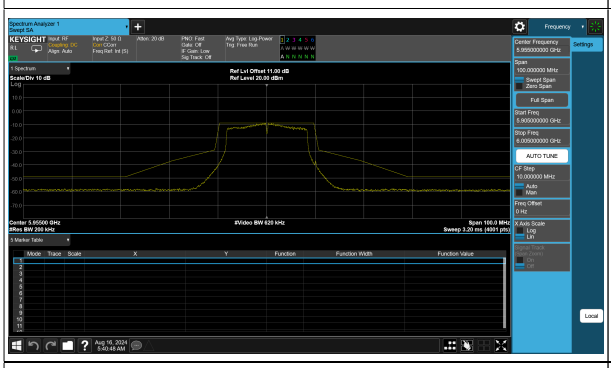
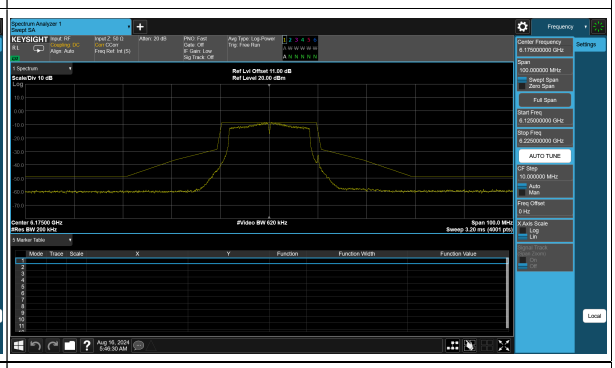
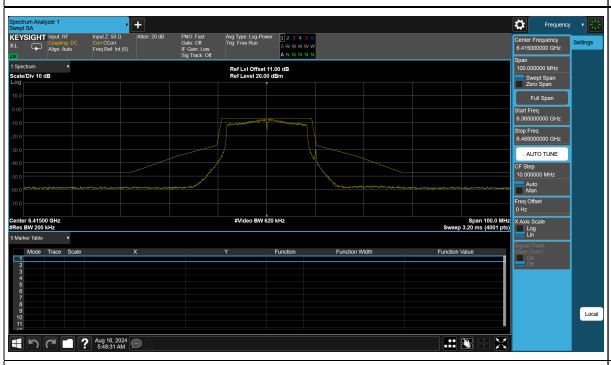
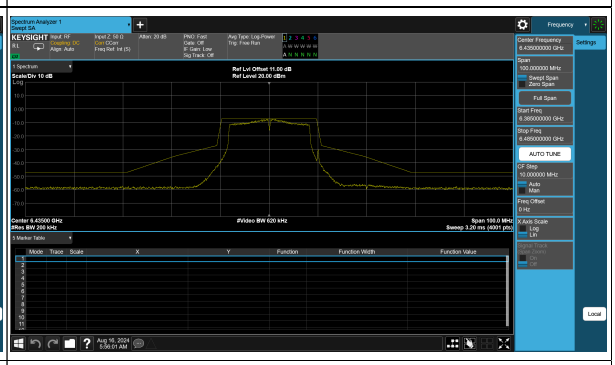
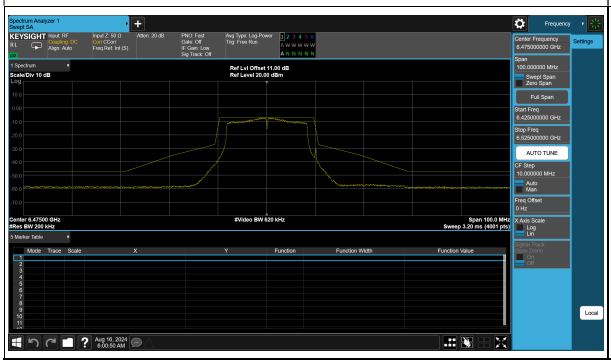
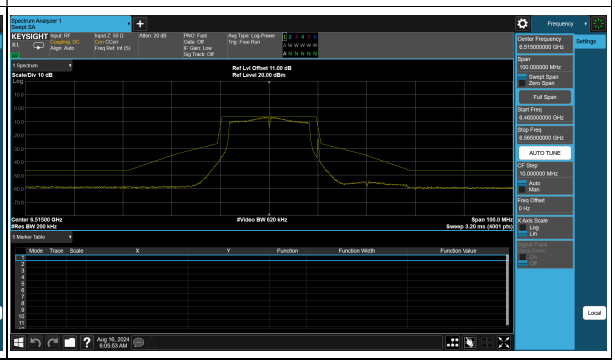
1.2.4 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

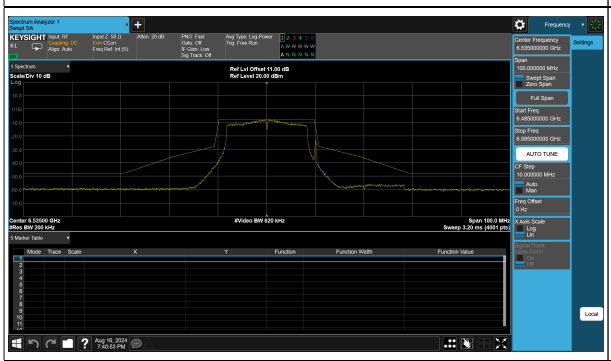
1.2.5 Test Results

Under control of Indoor AP:

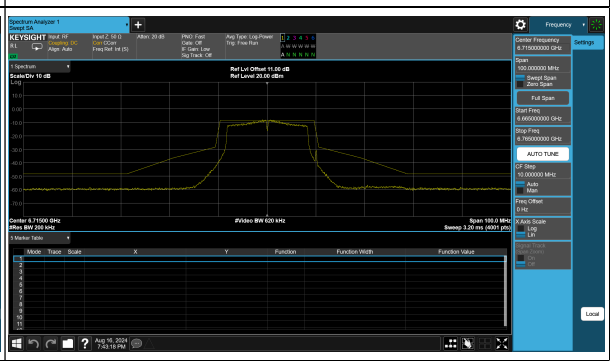
SISO Antenna 8_802.11a

Spectrum Plot	
CH 1	CH 45
	
CH 93	CH 97
	
CH 105	CH 113
	

CH 117



CH 153



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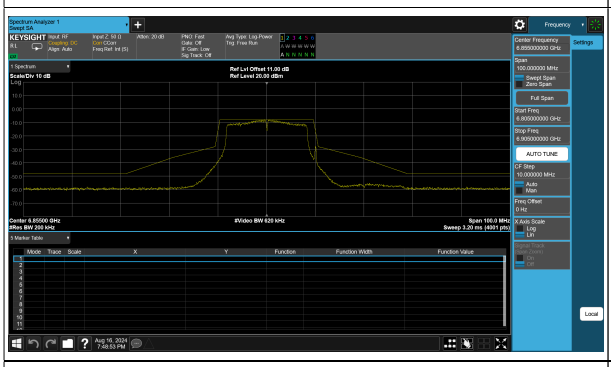

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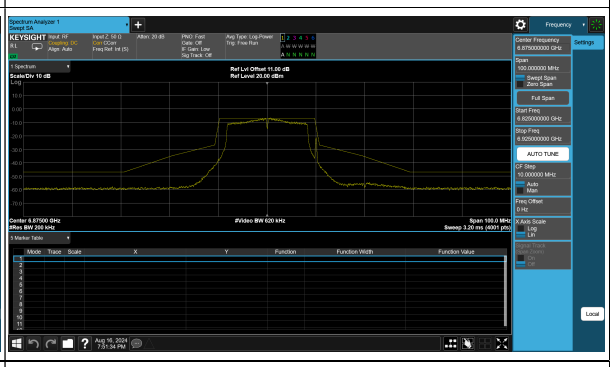
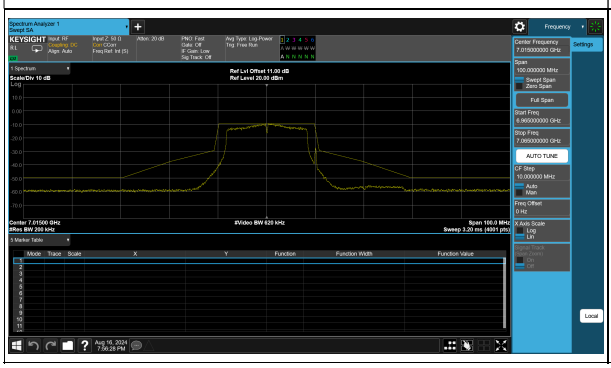
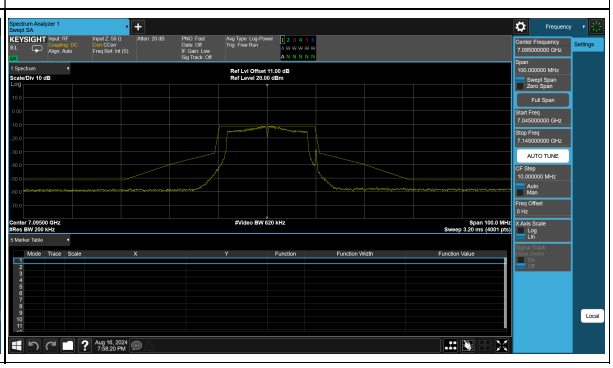
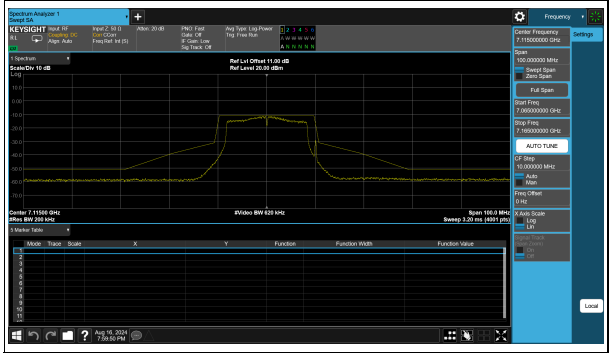


CH 213



CH 229



Spectrum Plot	
CH 233	
	

SISO Antenna 8_802.11ax (HE20)

Spectrum Plot	
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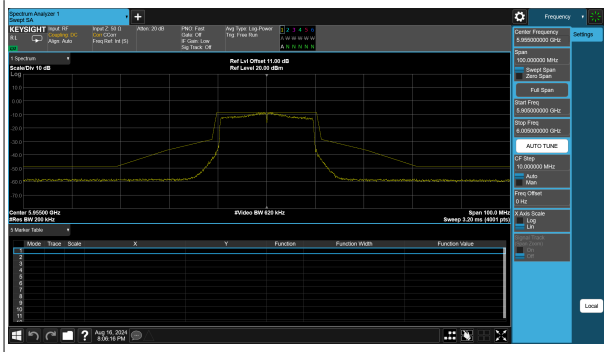
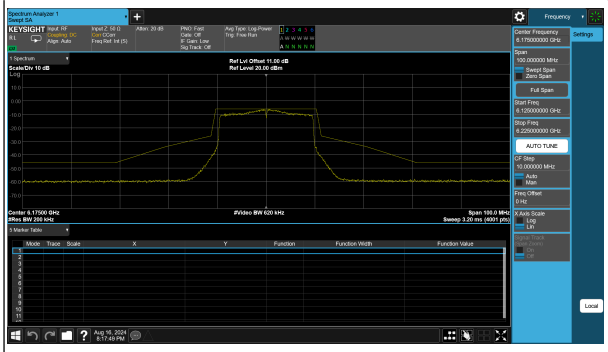
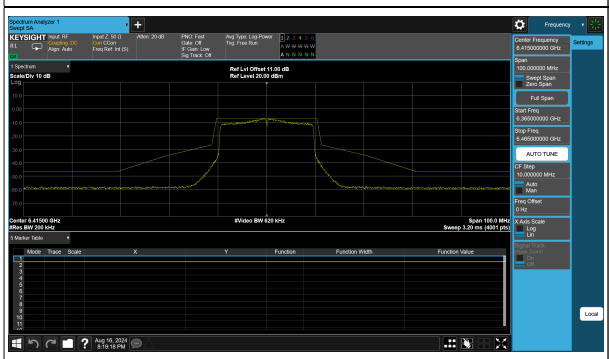
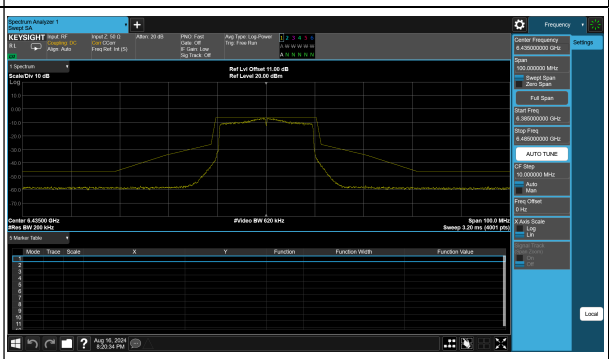
	
CH 93	CH 97
	
CH 105	CH 113