

Report No.: AGC16253250101FR04

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10. Conducted Band Edge and Out-of-Band Emissions

10.1 Provisions Applicable

	Applicable to	Limit	
Restricted bands	789033 D02 General UNII Test Procedures New Rules v02r01	Field strength at 3m (dBuV/m)	
		PK: 74	AV: 54
Out of the restricted bands	Applicable to	EIRP Limit (dBm/MHz)	Equivalent field Strength at 3m (dBuV/m)
	FCC 15.407(b)(1)	PK: -27	PK: 68.2
	15.407(b)(2)		
	15.407(b)(3)		
	15.407(b)(4)	See Note 2	

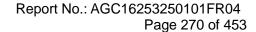
Note 1: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

E =
$$\frac{1000000 \quad \sqrt{30 P}}{3}$$
 µV/m, where P is the eirp (Watts).

Note 2: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

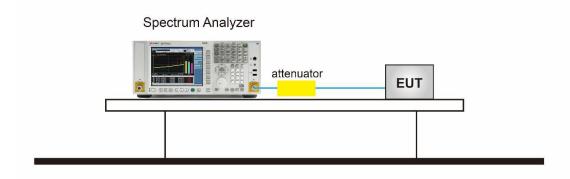
10.2 Measurement Procedure

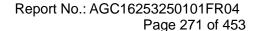
- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the Span = wide enough to capture the peak level of the in-band emission and all spurious emissions from the lowest frequency generated in the EUT up through the 10th harmonic.
- 3. RBW = 1MHz; VBW= 3MHz; Sweep = auto; Detector function = Peak. (Test frequency below 1GHz)
- 4. RBW = 1 MHz; VBW= 3 MHz; Sweep = auto; Detector function = Peak. (Test frequency Above 1GHz)
- 5. Set SPA Trace 1 Max hold, then View.
- 6. Antenna gain and path loss have been compensated to the Correction factor.
- 7. Mark the maximum useless stray point and compare it with the limit value to record the result.





10.3 Measurement Setup (Block Diagram of Configuration)

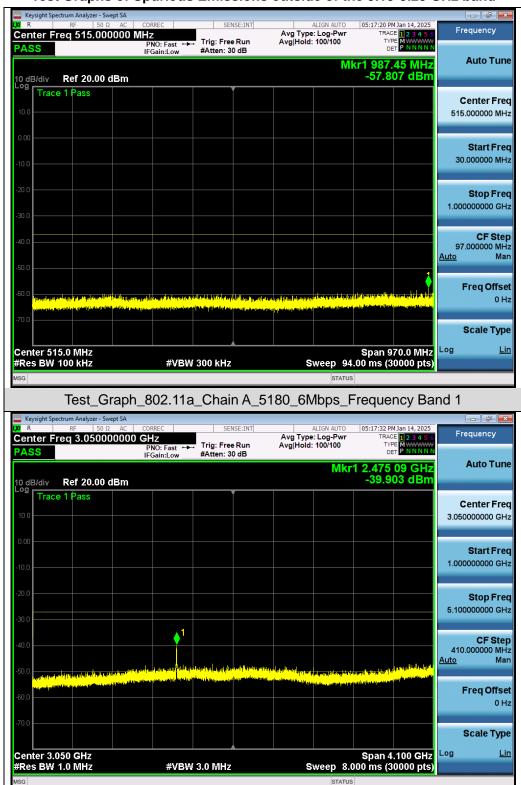






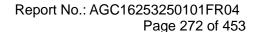
10.4 Measurement Results

Test Graphs of Spurious Emissions outside of the 5.15-5.25 GHz band

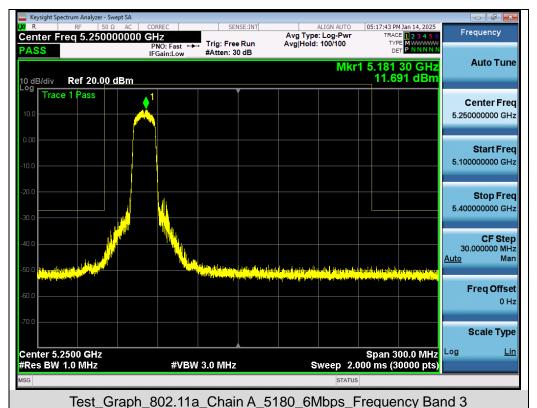


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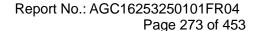
Test_Graph_802.11a_Chain A_5180_6Mbps_Frequency Band 2



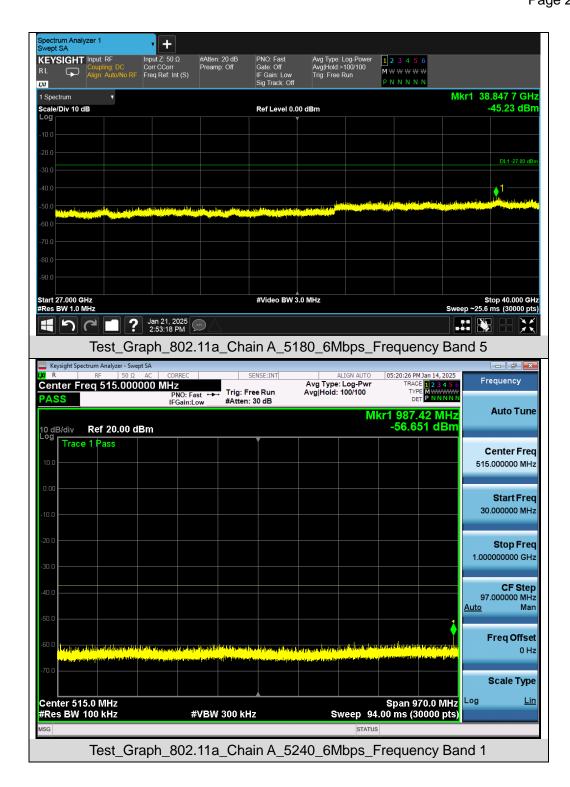


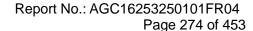












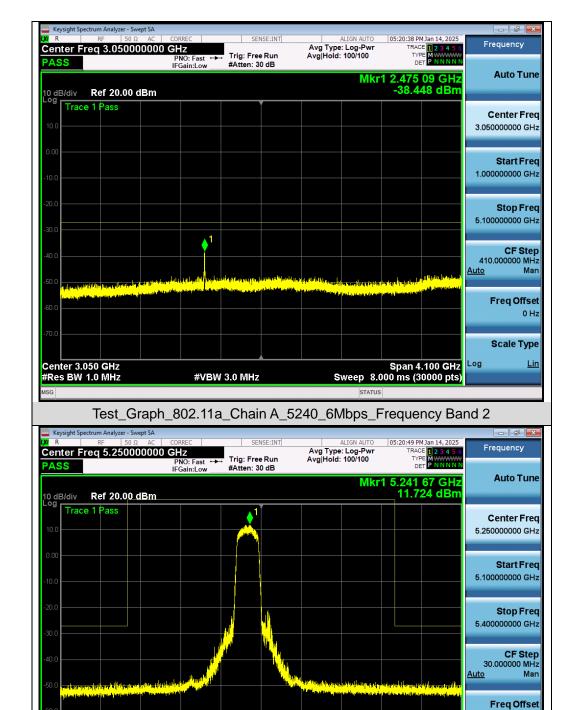
0 Hz

Scale Type

Log

Span 300.0 MHz Sweep 2.000 ms (30000 pts)



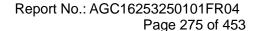


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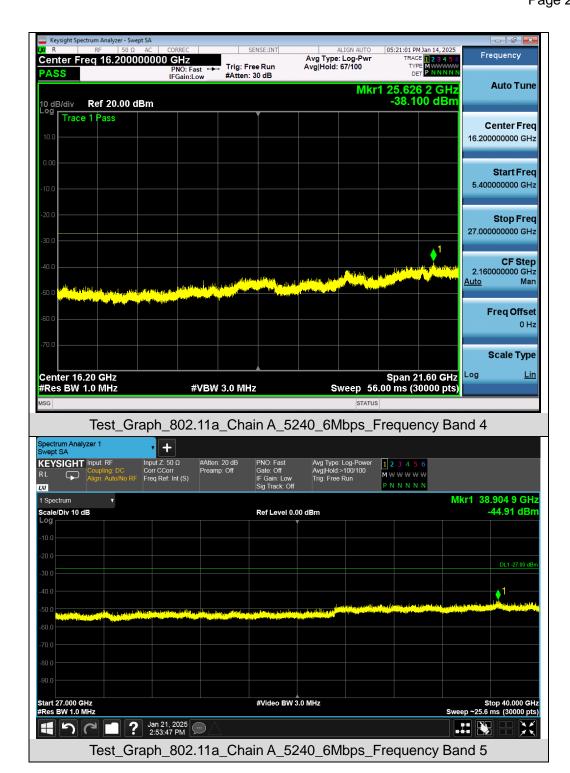
Test Graph 802.11a Chain A 5240 6Mbps Frequency Band 3

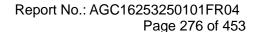
#VBW 3.0 MHz

Center 5.2500 GHz #Res BW 1.0 MHz





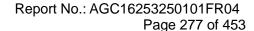




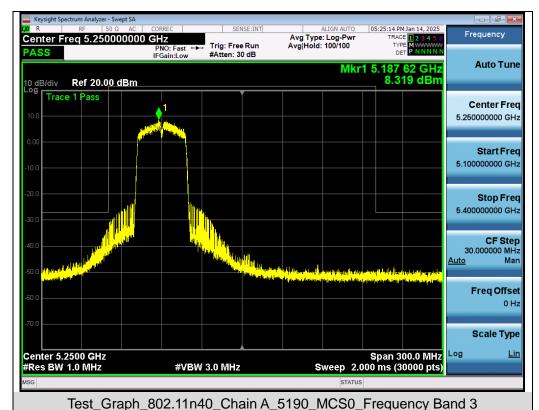




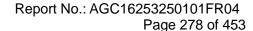




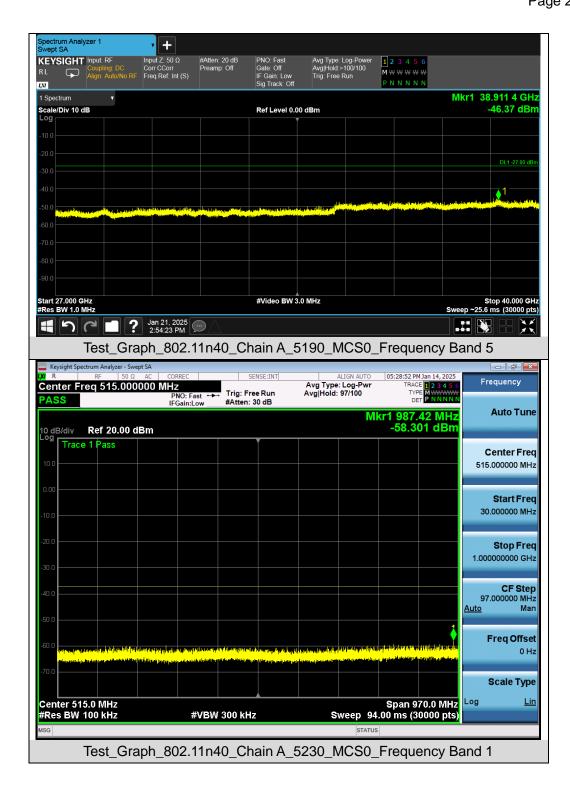


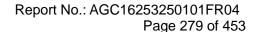




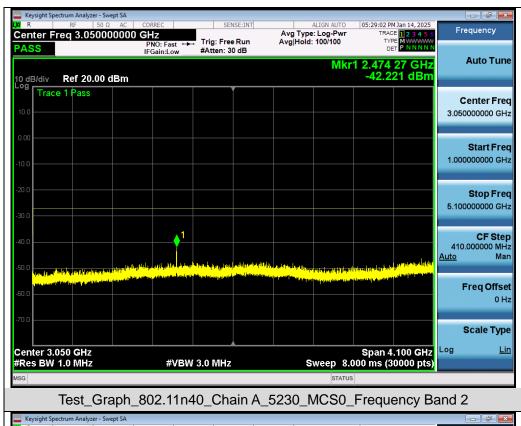


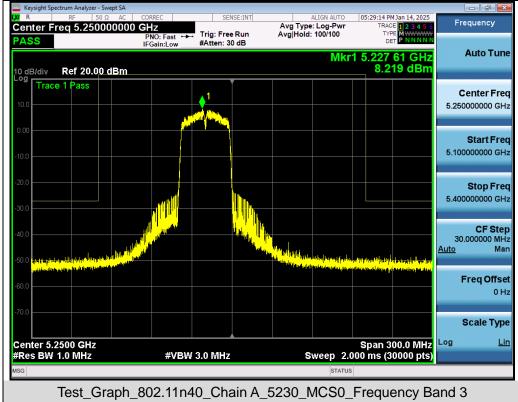


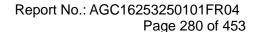




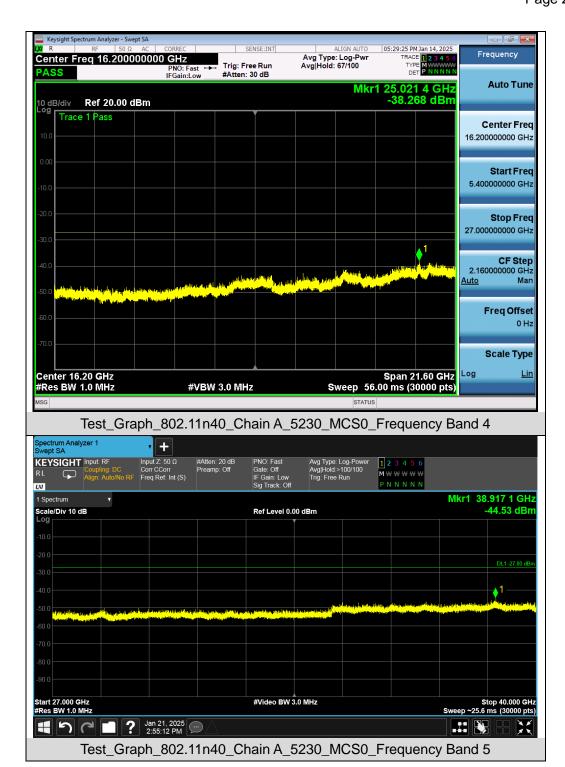


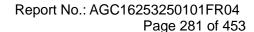




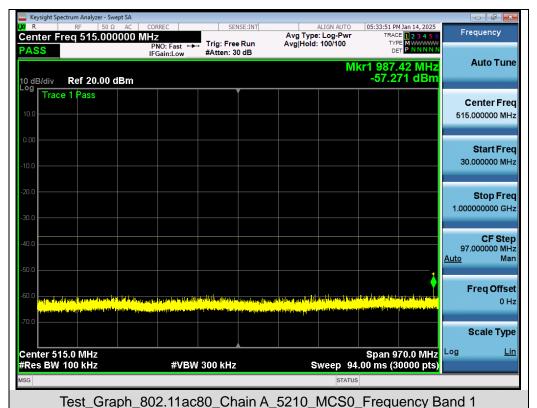


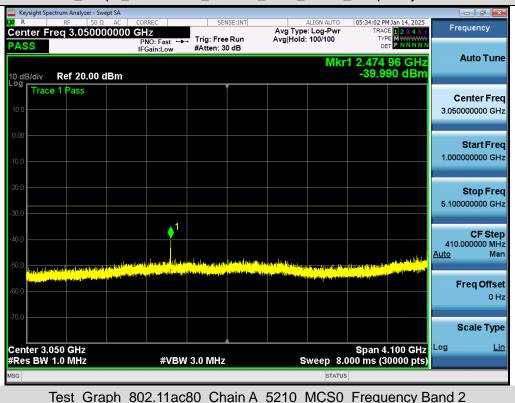


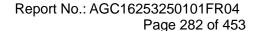




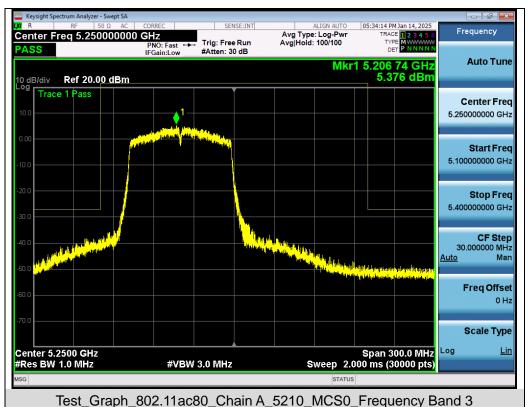




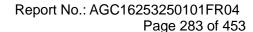




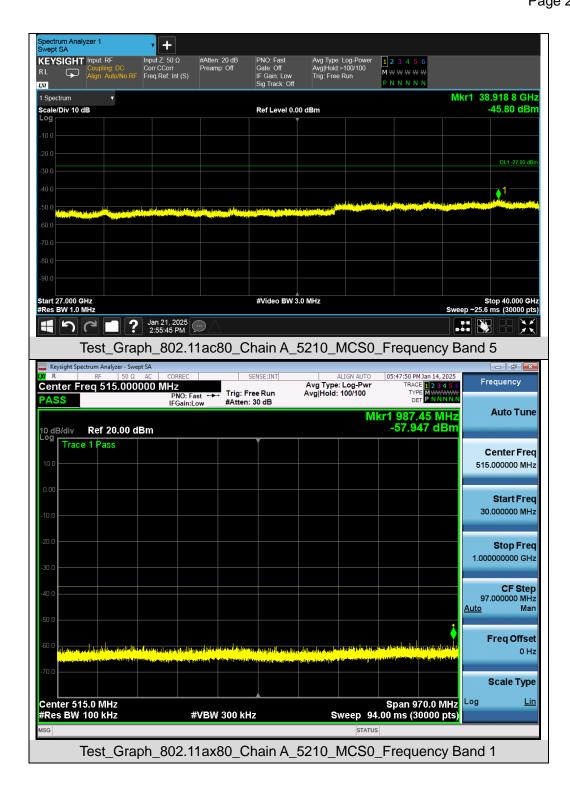


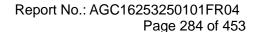












Stop Freq 5.400000000 GHz

> CF Step 30.000000 MHz

> > Freq Offset 0 Hz

Scale Type

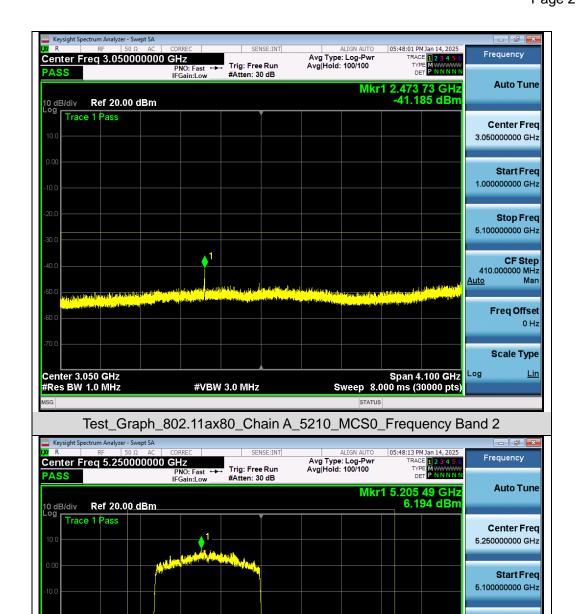
Man

<u>Auto</u>

Log

Span 300.0 MHz Sweep 2.000 ms (30000 pts)



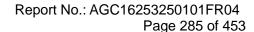


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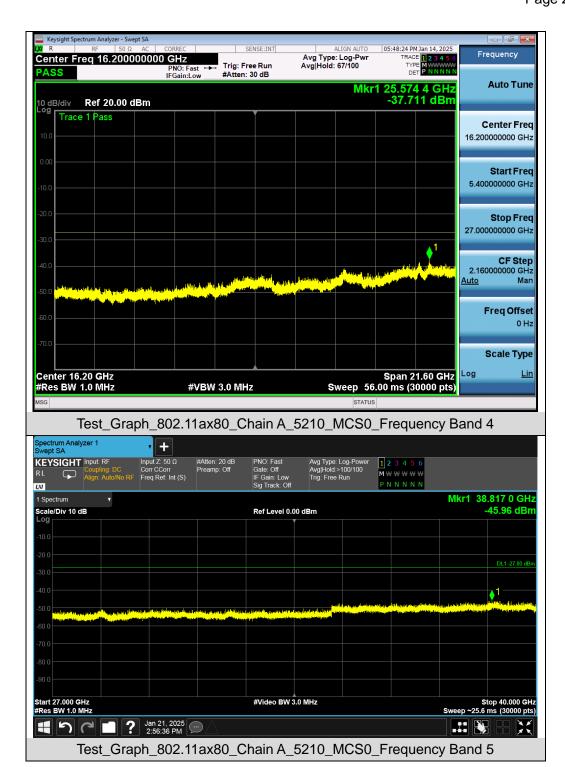
Test Graph 802.11ax80 Chain A 5210 MCS0 Frequency Band 3

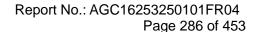
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Center 5.2500 GHz #Res BW 1.0 MHz









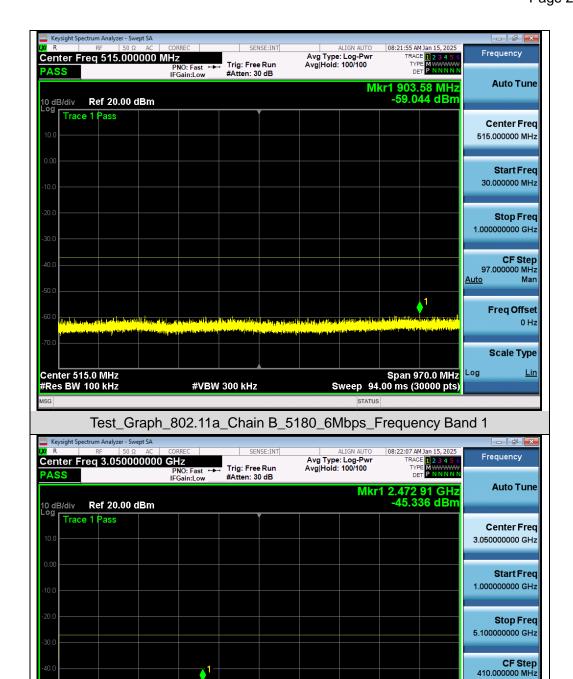
<u>Auto</u>

Span 4.100 GHz Sweep 8.000 ms (30000 pts) Man

Freq Offset 0 Hz

Scale Type



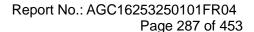


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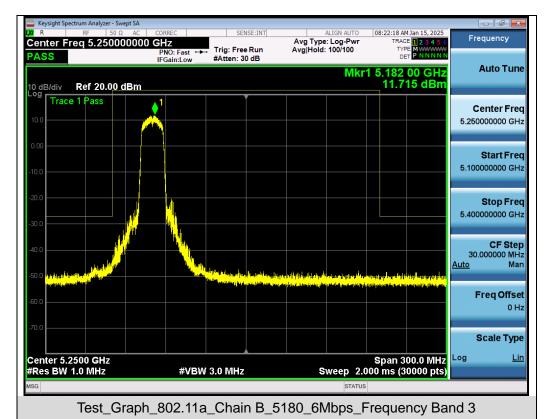
Test Graph 802.11a Chain B 5180 6Mbps Frequency Band 2

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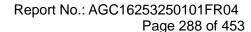
Center 3.050 GHz #Res BW 1.0 MHz



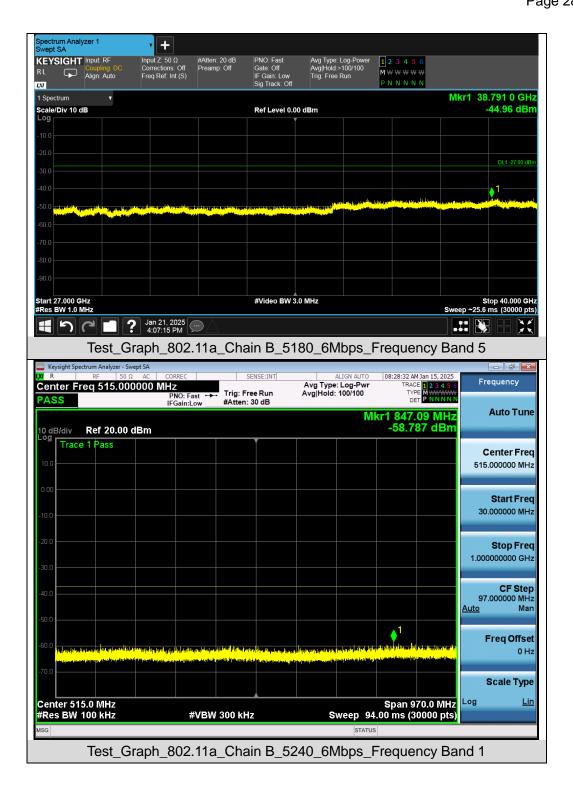


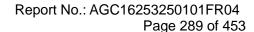






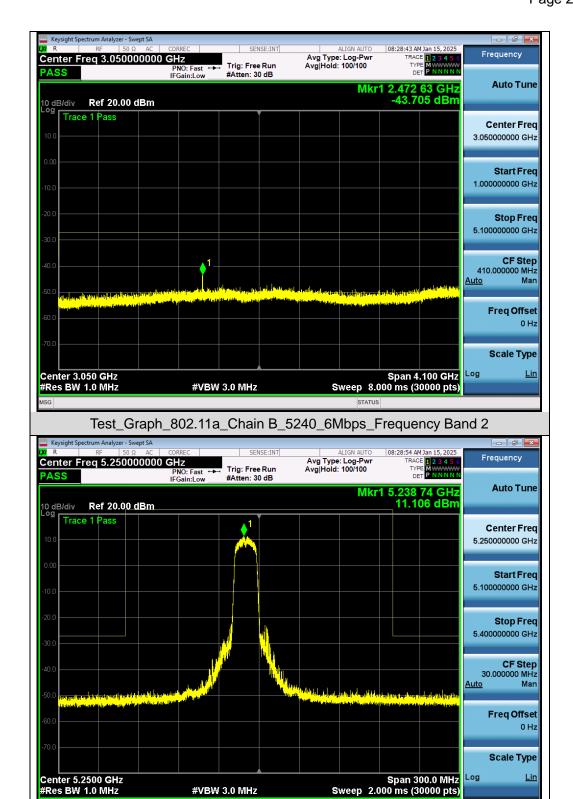






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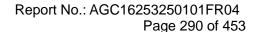




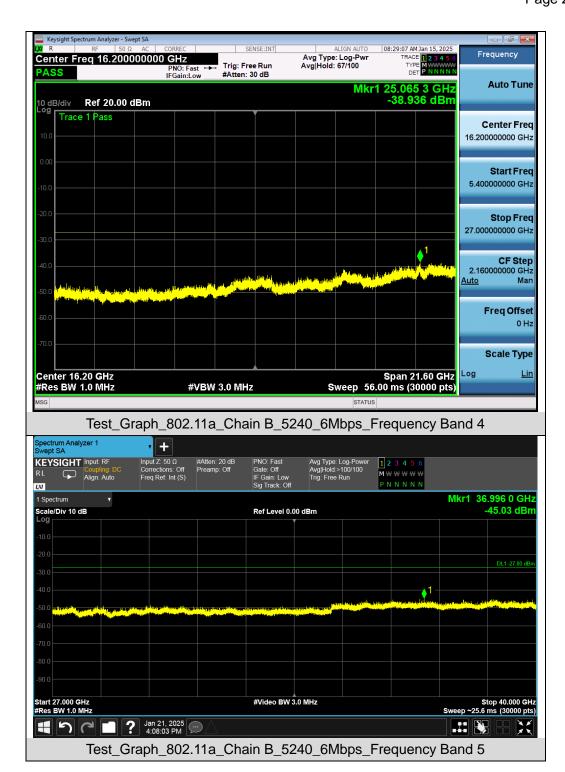
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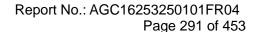
Test Graph 802.11a Chain B 5240 6Mbps Frequency Band 3

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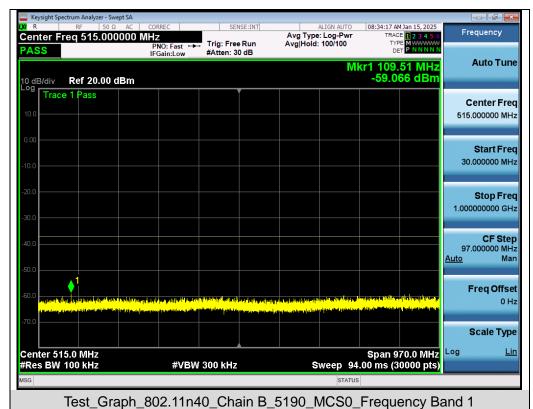




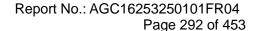




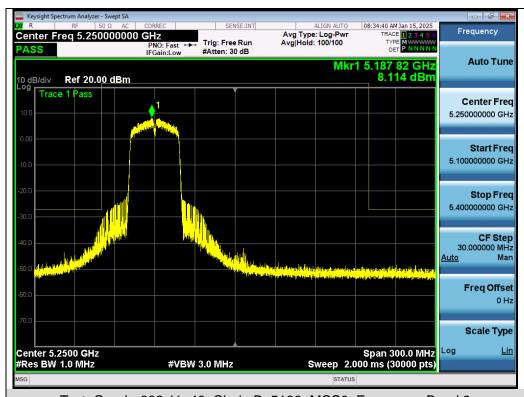


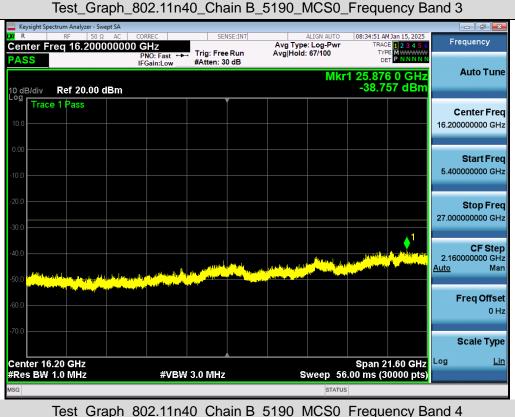


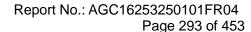




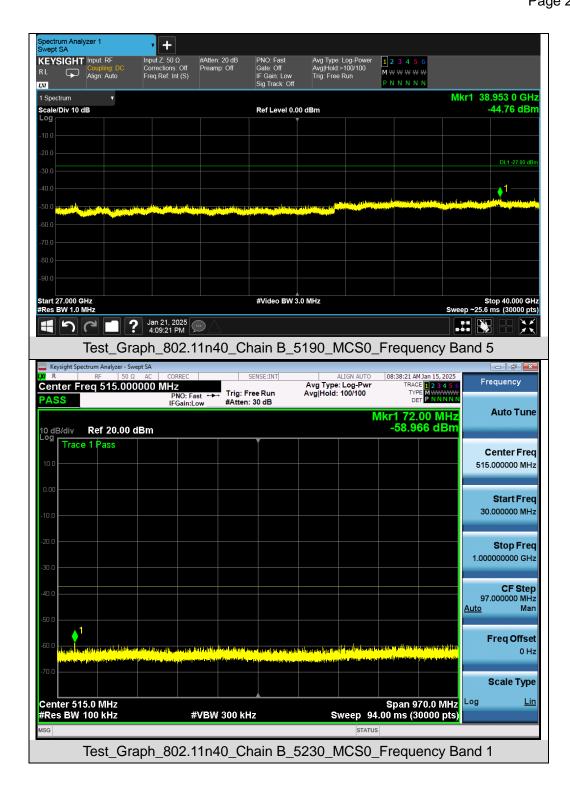


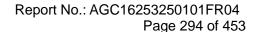






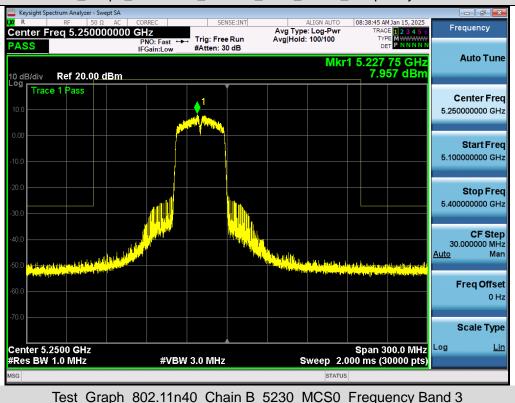


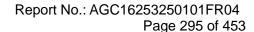




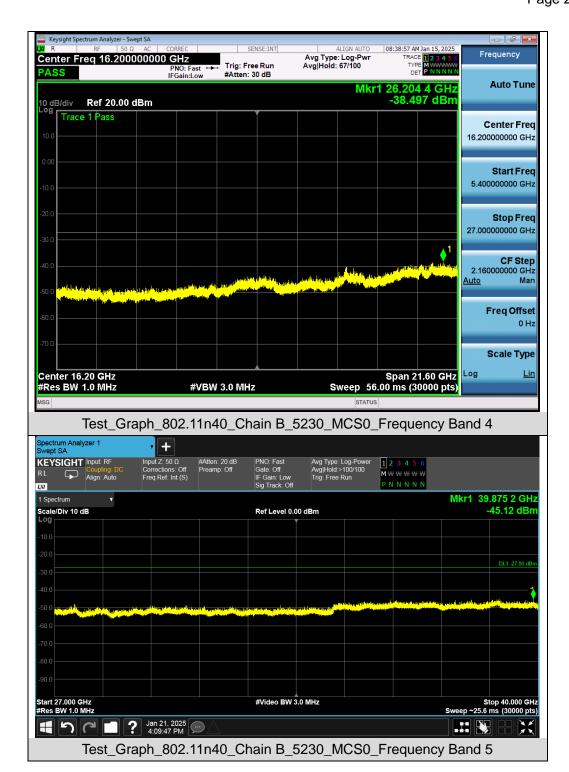


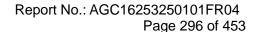










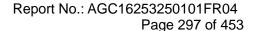




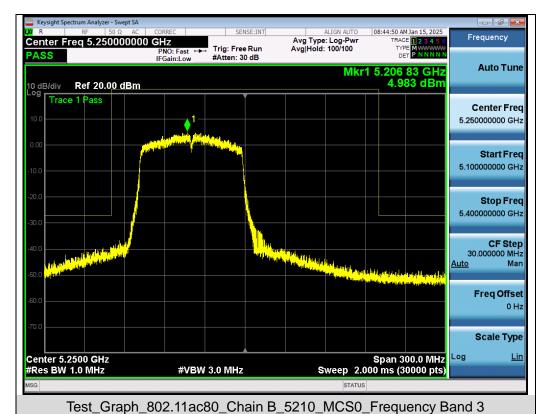




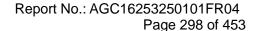
Web: http://www.agccert.com/



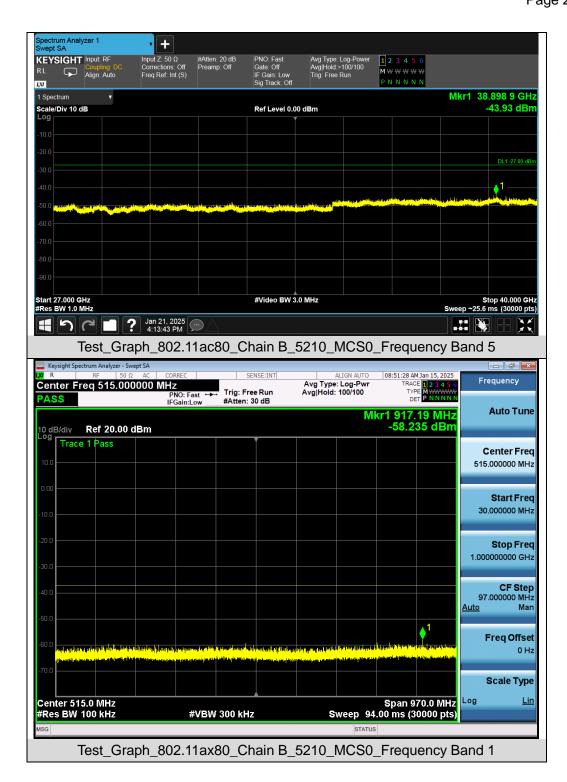


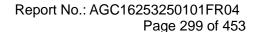












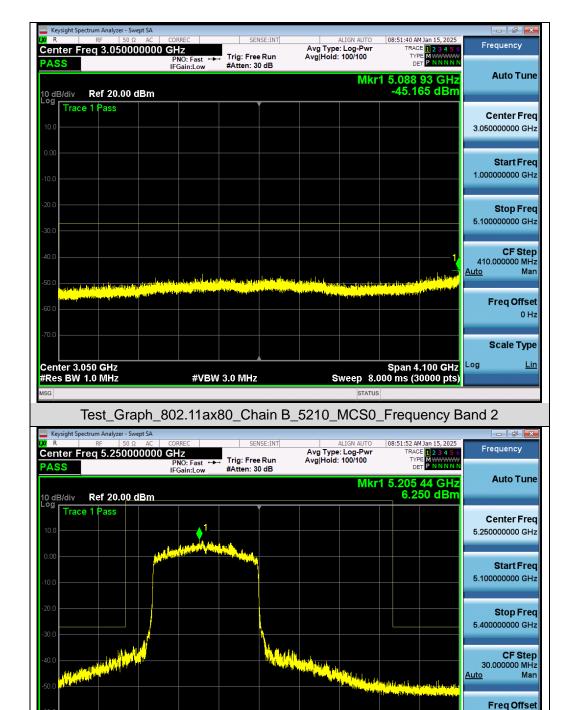
0 Hz

Scale Type

Log

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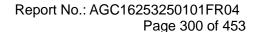


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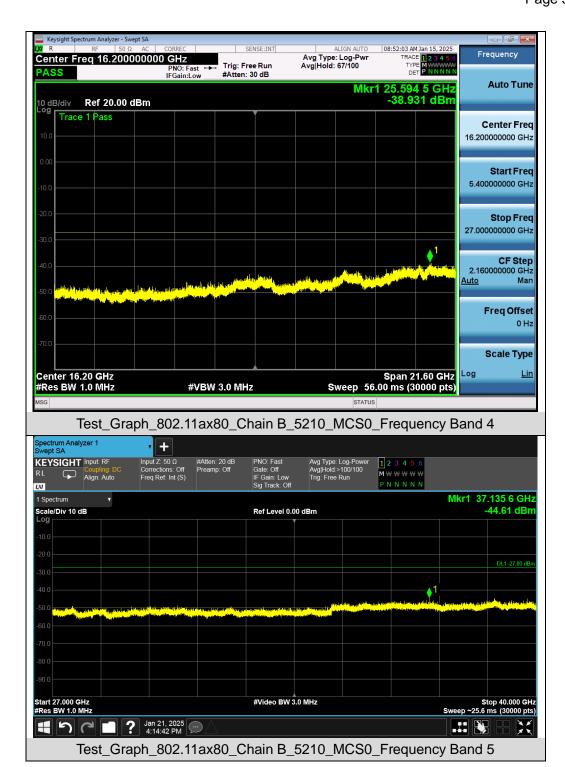
Test Graph 802.11ax80 Chain B 5210 MCS0 Frequency Band 3

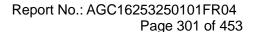
#VBW 3.0 MHz

Center 5.2500 GHz #Res BW 1.0 MHz



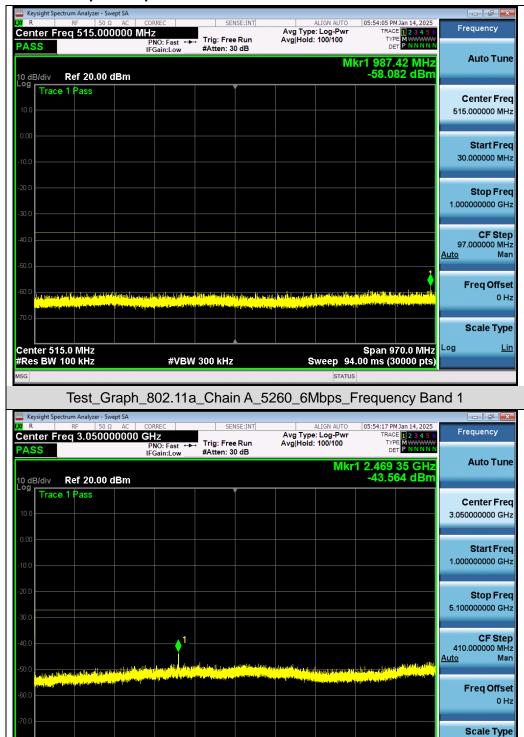








Test Graphs of Spurious Emissions outside of the 5.25-5.35 GHz band



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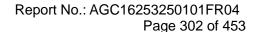
Test_Graph_802.11a_Chain A_5260_6Mbps_Frequency Band 2

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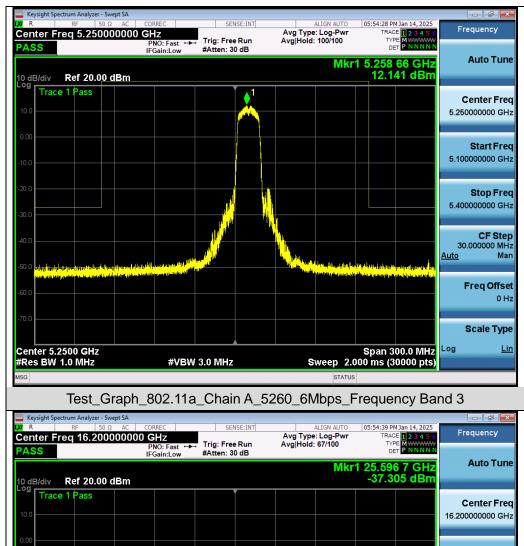
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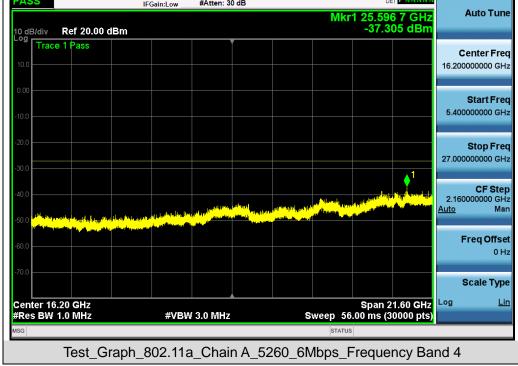
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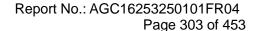
Center 3.050 GHz #Res BW 1.0 MHz



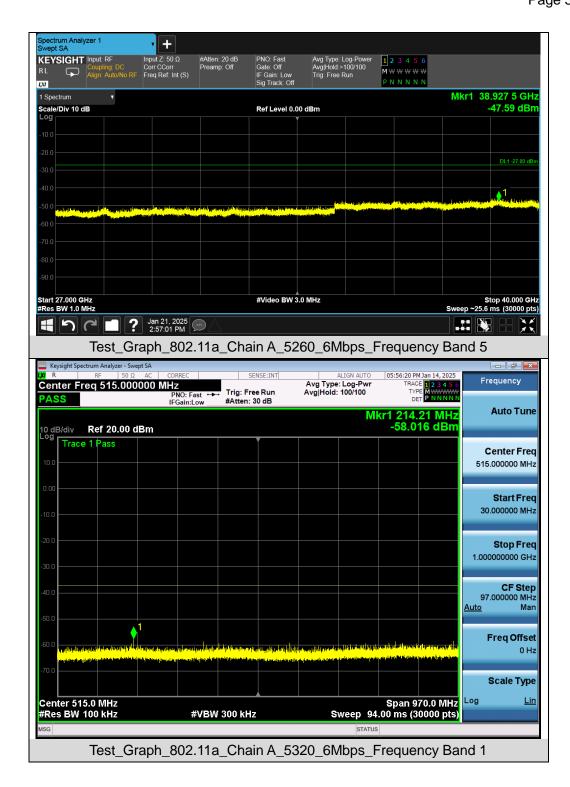


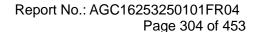










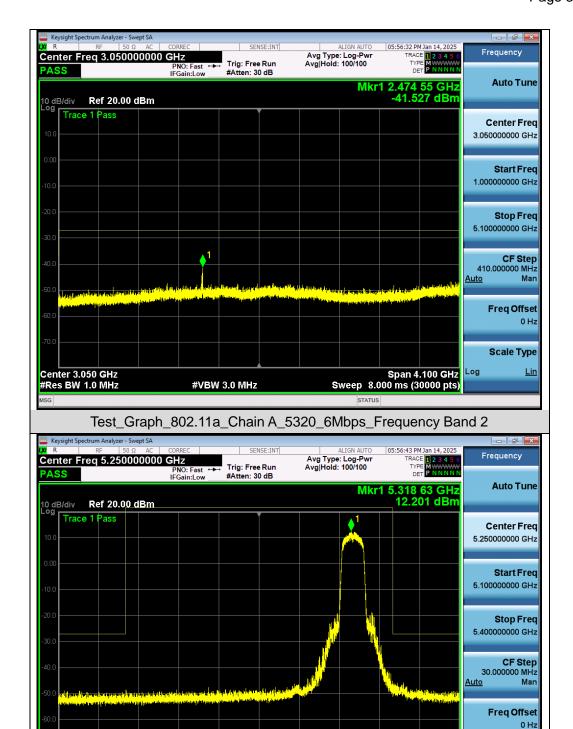


Scale Type

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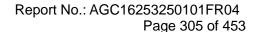


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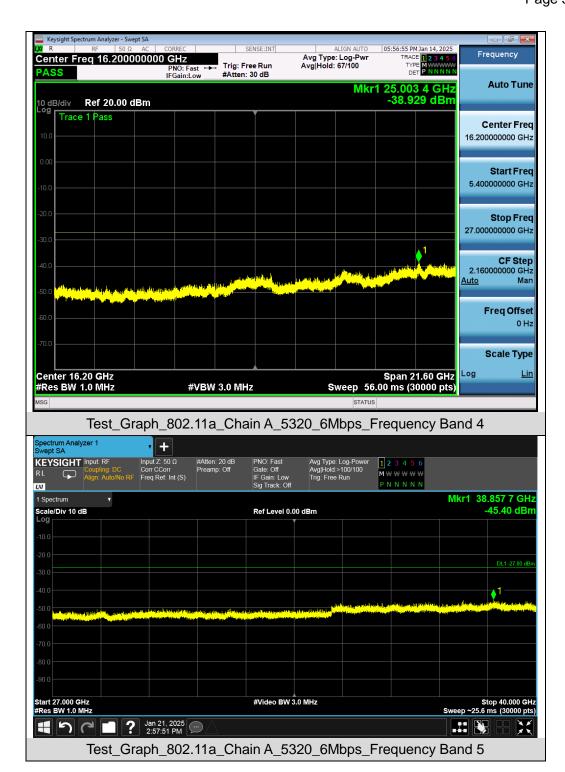
Test Graph 802.11a Chain A 5320 6Mbps Frequency Band 3

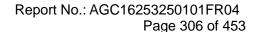
#VBW 3.0 MHz

Center 5.2500 GHz #Res BW 1.0 MHz

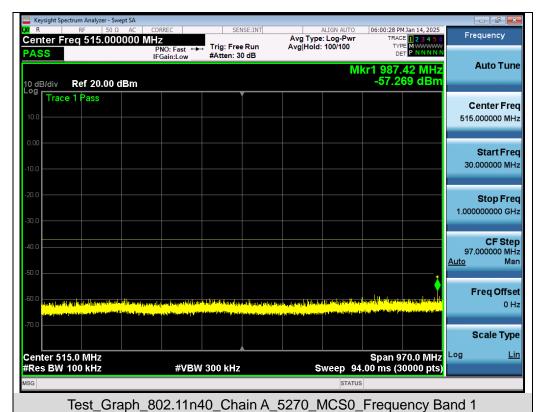




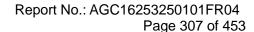




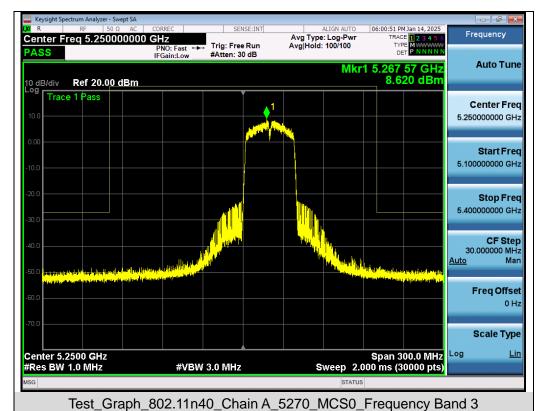




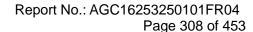




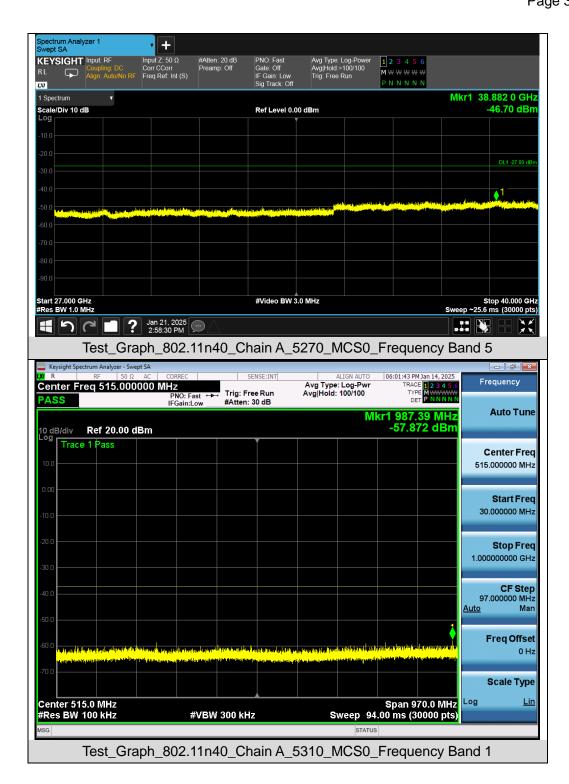


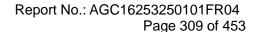






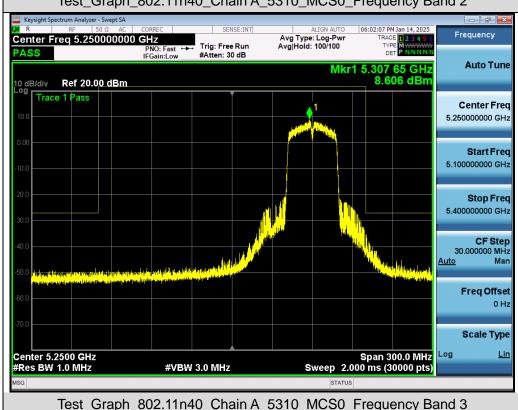


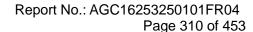




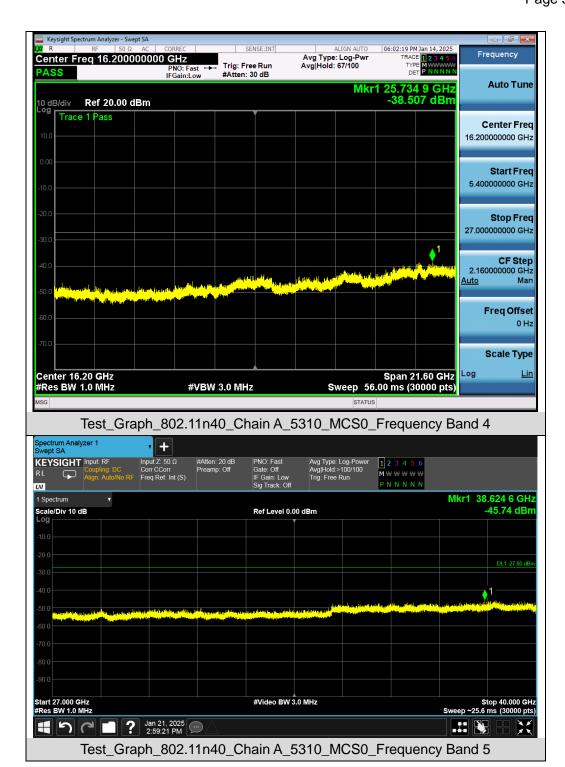


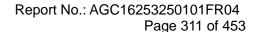








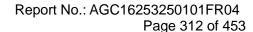




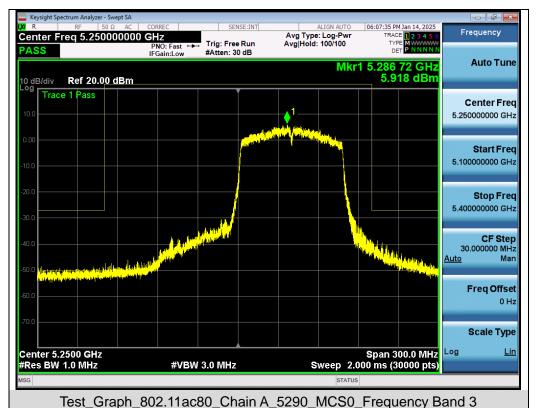




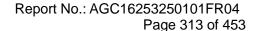




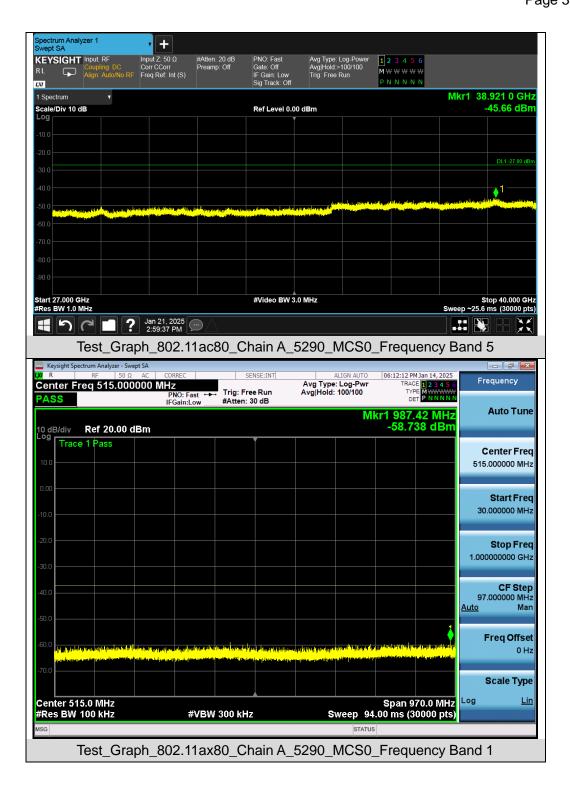


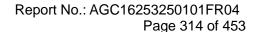






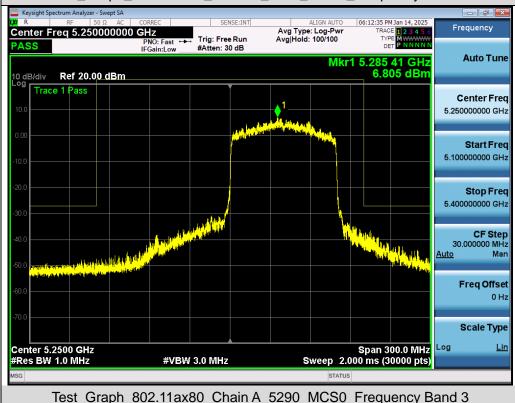


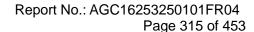




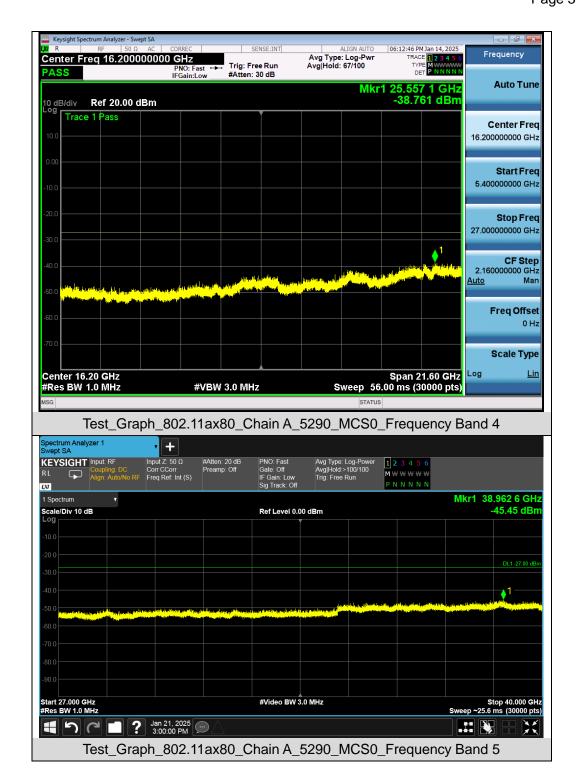


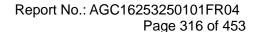




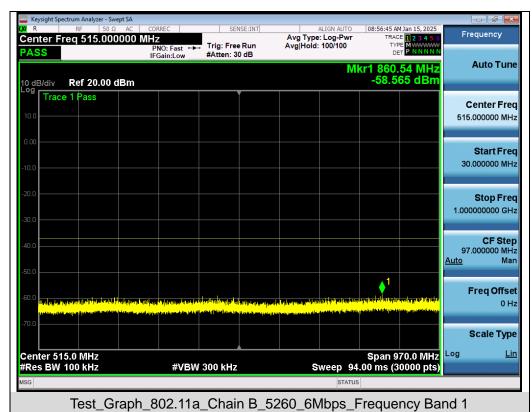




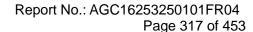




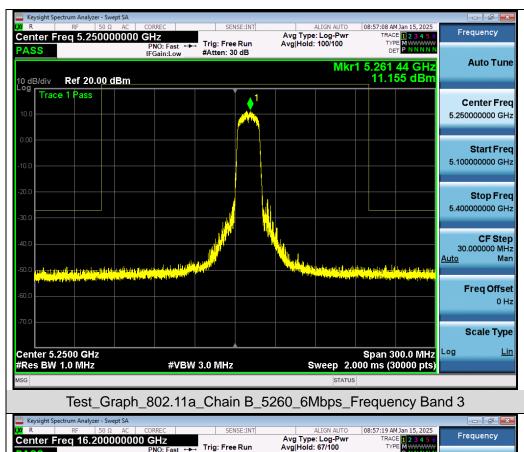




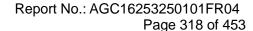




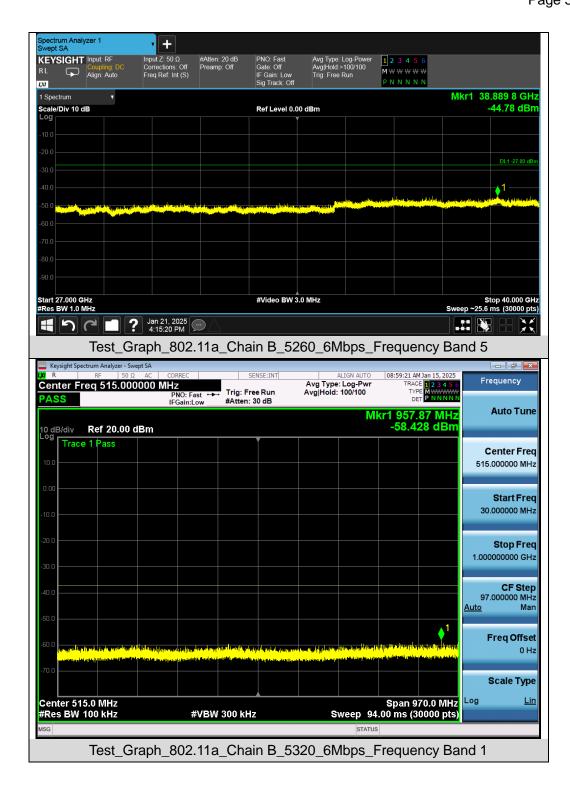


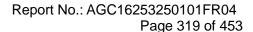




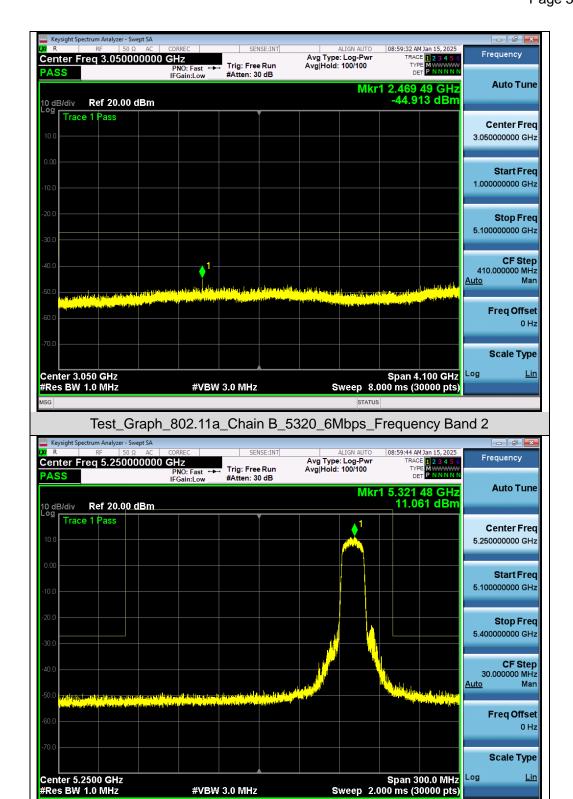












Test Graph 802.11a Chain B 5320 6Mbps Frequency Band 3

#VBW 3.0 MHz

