



802.11n-HT40 5755M



802.11n-HT40 5795M



Chain 2:



802.11a-5745M



802.11a-5785M



802.11a-5825M



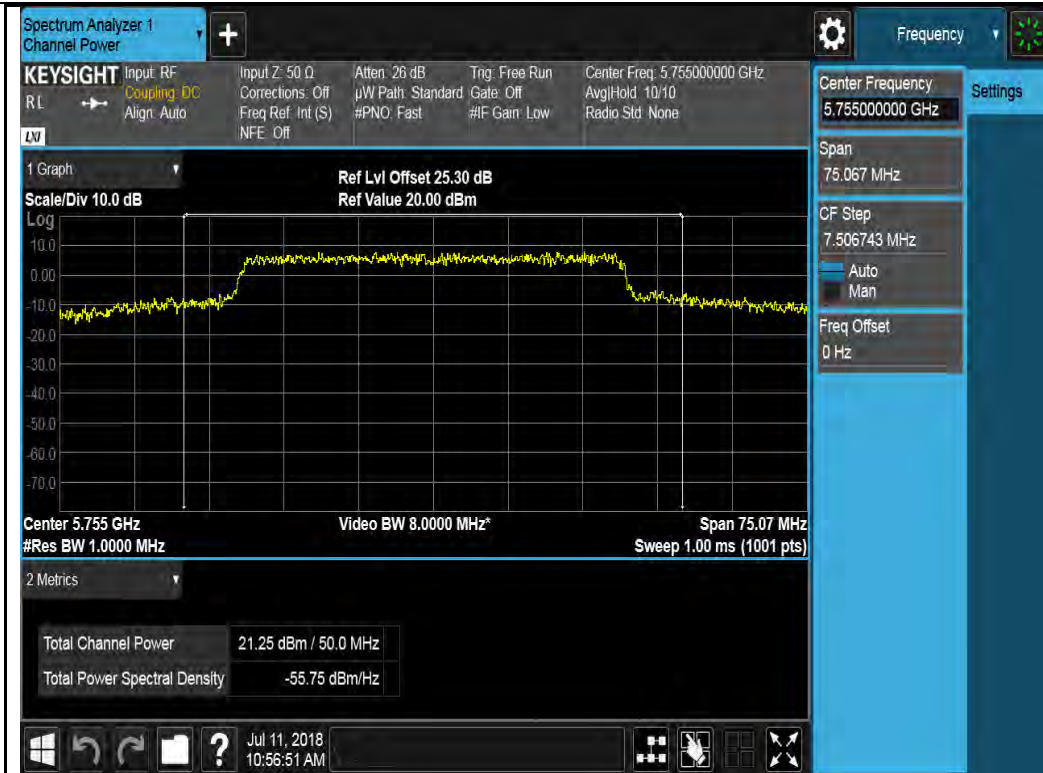
802.11n-HT20 5745M



802.11n-HT20 5785M



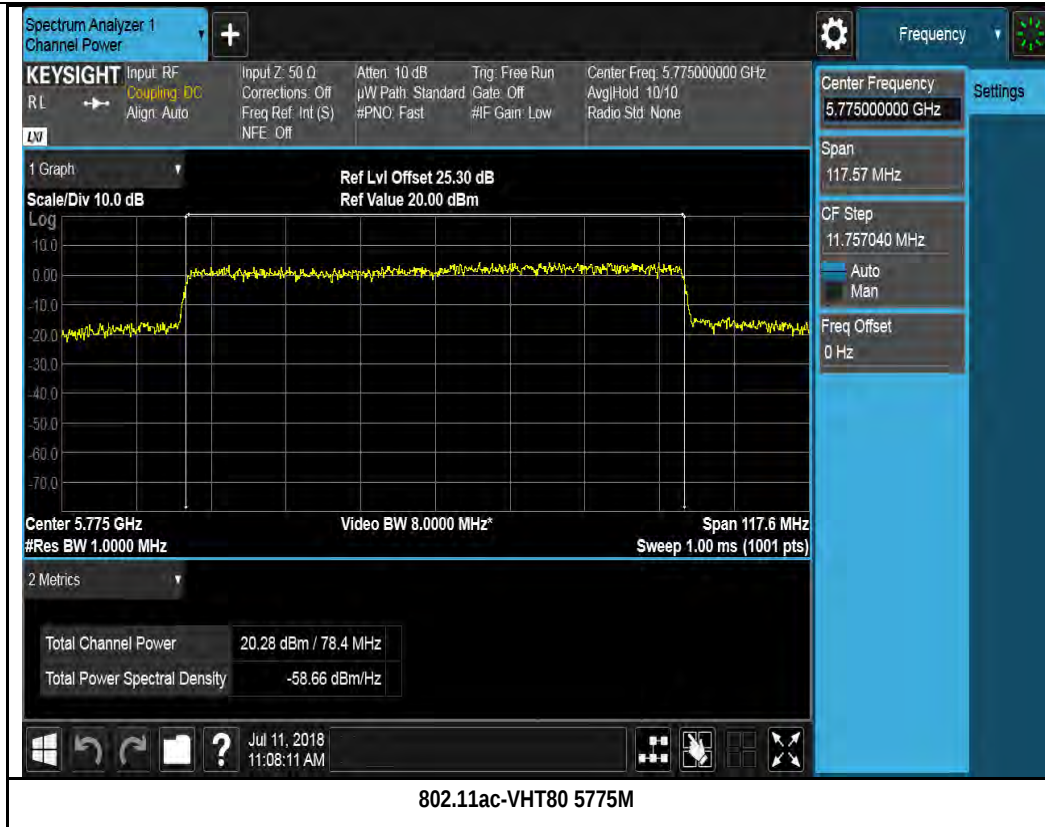
802.11n-HT20 5825M



802.11n-HT40 5755M



802.11n-HT40 5795M



Chain 3:



802.11a-5745M



802.11a-5785M



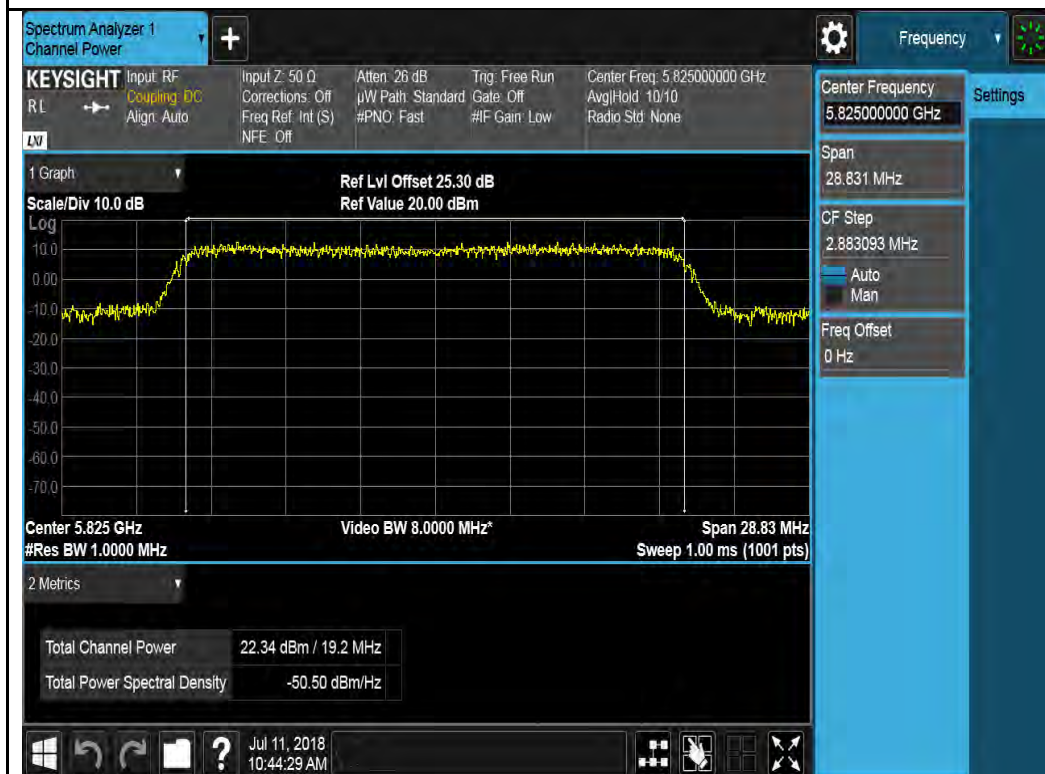
802.11a-5825M



802.11n-HT20 5745M



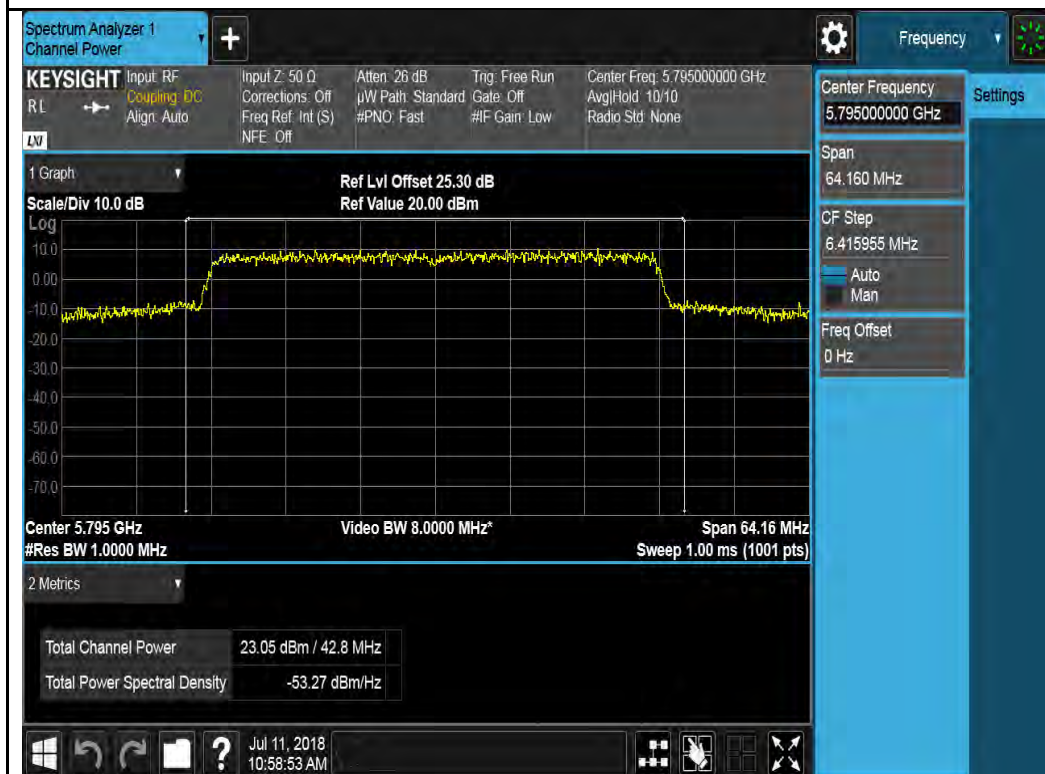
802.11n-HT20 5785M



802.11n-HT20 5825M



802.11n-HT40 5755M

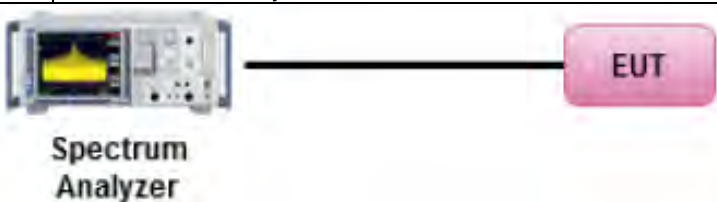


802.11n-HT40 5795M



10.4 Peak Spectral Density

Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.407	a)(1)(i)	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.	☒
	a)(3)	For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.	☒
Test Setup			
Test Procedure	789033 D02 General UNII Test Procedures New Rules v01r02, II.F. Method SA-1 <u>Maximum spectral density measurement procedure</u> - Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal. - Set RBW = 1 MHz - Set VBW ≥ 3 MHz - Detector = RMS. - Sweep time = auto couple. - Trace mode = max hold. - Trace average at least 100 traces in power averaging - Use the peak marker function to determine the maximum amplitude level within the RBW. Apply correction to the result if different RBW is used.		
Test Date	05/17/2018 – 06/20/2018	Environmental condition	Temperature 22°C Relative Humidity 42% Atmospheric Pressure 1020mbar
Remark	8x8 mode: The EUT has 8 antennas with 6 vertical and 2 horizontal, individual gain = 1.5dBi, the directional gain = $1.5 + 10 \cdot \log(6) = 9.2$, therefore, the power and psd limit should decrease by $9.2 - 6 = 3.2\text{dB}$. 4x4 mode: The EUT has 4 antennas with 3 vertical and 1 horizontal, individual gain = 1.5dBi, the directional gain = $1.5 + 10 \cdot \log(3) = 6.27$, therefore, the power and psd limit should decrease by $6.27 - 6 = 0.27\text{dB}$.		
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Deon Dai at RF test site.

PSD measurement result for 8x8 mode 5.2GHz

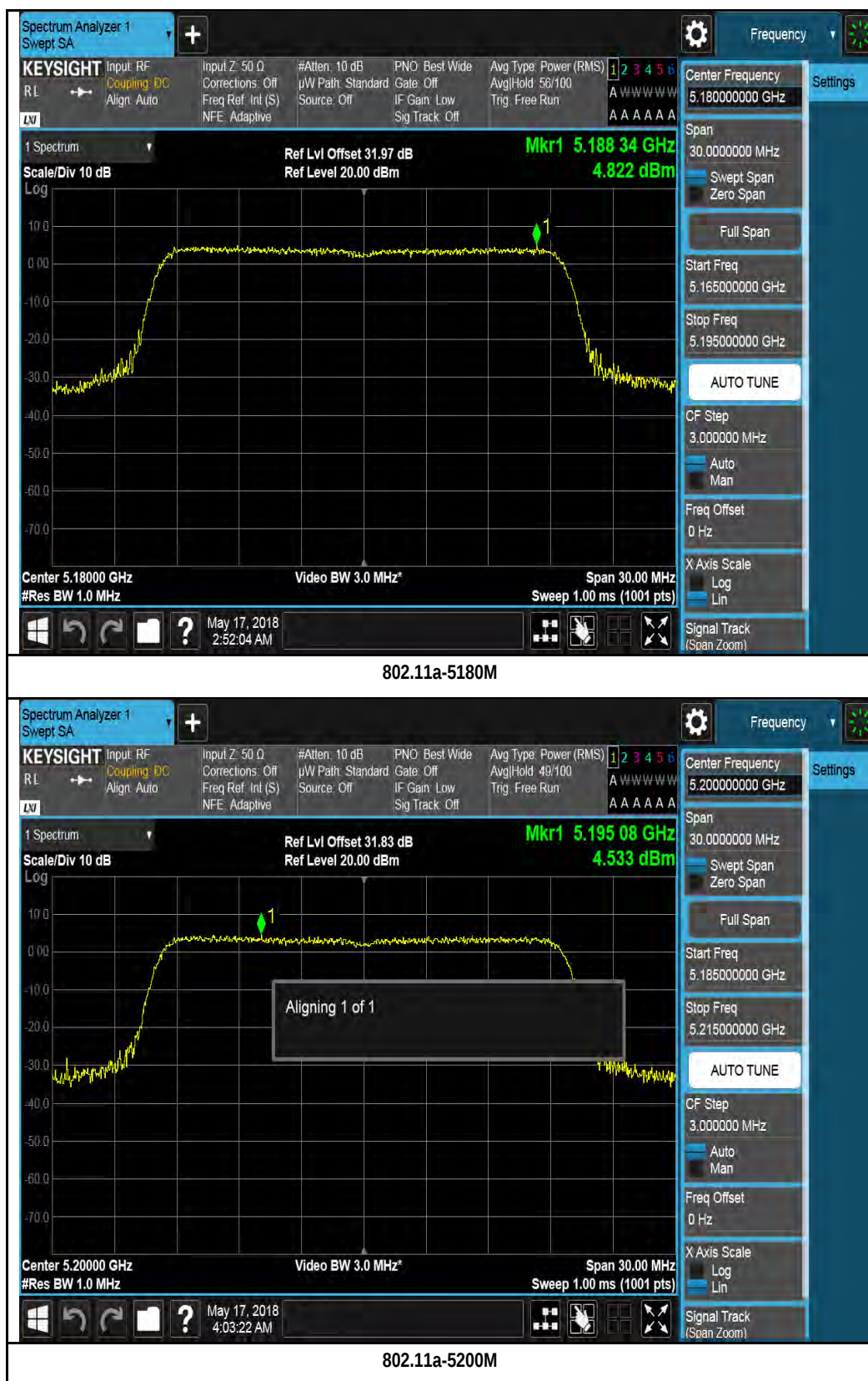
Test mode	Freq (MHz)	CH	Conducted PSD (dBm/MHz)									Limit (dBm/MHz)	Result
			Chain No.										
			0	1	2	3	4	5	6	7	Total		
802.11a	5180	Low	4.82	3.98	4.29	4.73	4.37	3.12	3.93	4.05	13.22	13.8	Pass
	5200	Mid	4.53	3.87	4.93	5.34	4.21	3.40	3.73	3.99	13.32	13.8	Pass
	5240	High	3.55	3.71	3.64	5.47	4.15	3.02	3.27	3.78	12.91	13.8	Pass
802.11ax-20	5180	Low	4.49	4.62	4.70	5.86	4.55	3.97	4.45	4.47	13.70	13.8	Pass
	5200	Mid	4.70	3.65	4.98	5.75	4.71	4.10	4.45	4.51	13.68	13.8	Pass
	5240	High	4.70	4.16	5.42	6.17	5.04	4.42	4.84	4.62	13.99	13.8	Pass
802.11ax-40	5190	Low	1.56	1.65	2.01	2.69	1.27	0.97	1.64	1.42	10.71	13.8	Pass
	5230	Mid	1.77	0.78	1.79	3.00	1.45	0.70	1.42	1.68	10.66	13.8	Pass
802.11ax-80	5210	High	1.46	1.51	1.80	2.56	1.39	0.50	1.32	1.16	10.53	13.8	Pass

PSD measurement result for 8x8 mode 5.8GHz

Test mode	Freq (MHz)	Conducted PSD (dBm/100kHz)								Correction factor (dB)	Total (dBm/500kHz)	Limit (dBm/500kHz)	Result
		0	1	2	3	4	5	6	7				
802.11a	5745	-3.12	-2.65	-3.60	-1.98	-2.48	-2.31	-2.62	-2.17	6.99	13.43	26.8	Pass
	5785	-3.77	-2.81	-4.01	-2.06	-2.24	-2.92	-2.57	-3.19	6.99	13.12	26.8	Pass
	5825	-3.03	-2.65	-3.79	-2.99	-2.51	-2.63	-2.94	-3.06	6.99	13.09	26.8	Pass
802.11ax-20	5745	-4.94	-4.41	-5.51	-4.20	-4.58	-4.44	-4.66	-4.68	6.99	11.36	26.8	Pass
	5785	-4.08	-4.17	-5.11	-3.44	-3.64	-4.21	-4.21	-4.37	6.99	11.89	26.8	Pass
	5825	-4.62	-3.91	-5.24	-4.06	-3.76	-4.20	-4.34	-4.18	6.99	11.75	26.8	Pass
802.11ax-40	5755	-7.67	-8.05	-8.25	-6.90	-7.28	-7.53	-7.87	-7.53	6.99	8.40	26.8	Pass
	5795	-7.78	-6.93	-8.01	-6.36	-6.73	-6.78	-7.43	-7.47	6.99	8.87	26.8	Pass
802.11ax-80	5775	-11.16	-10.84	-11.55	-10.50	-10.61	-10.63	-11.16	-11.21	6.99	5.08	26.8	Pass

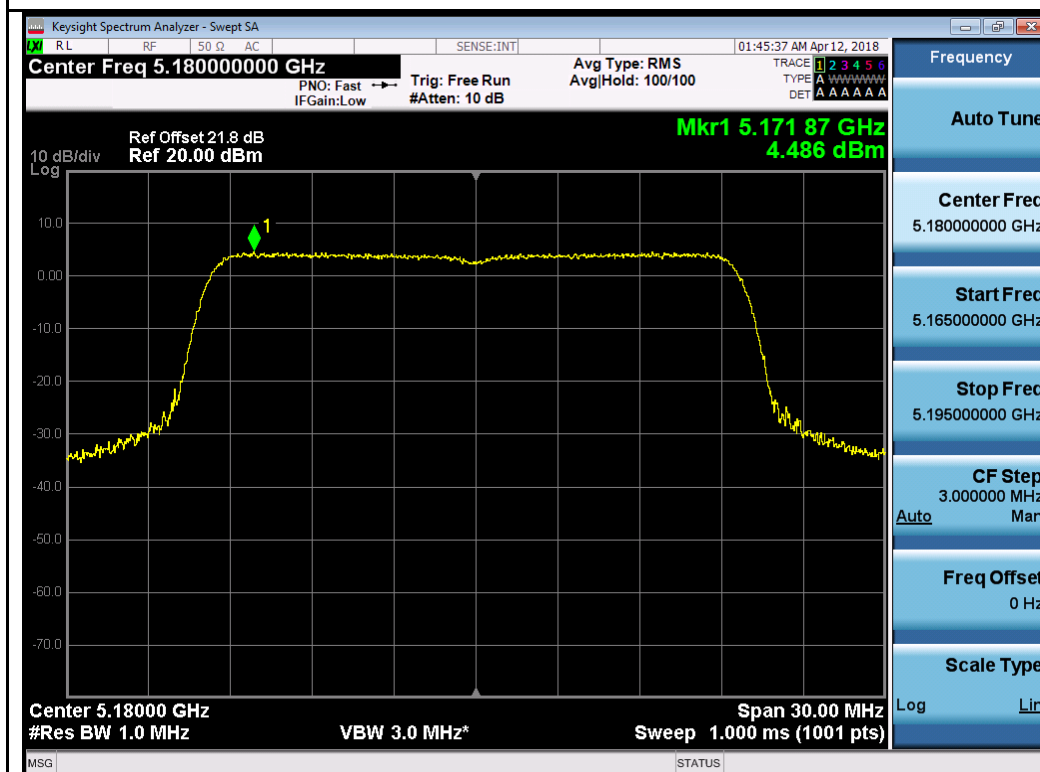
Test Plot for 8x8 mode W52:

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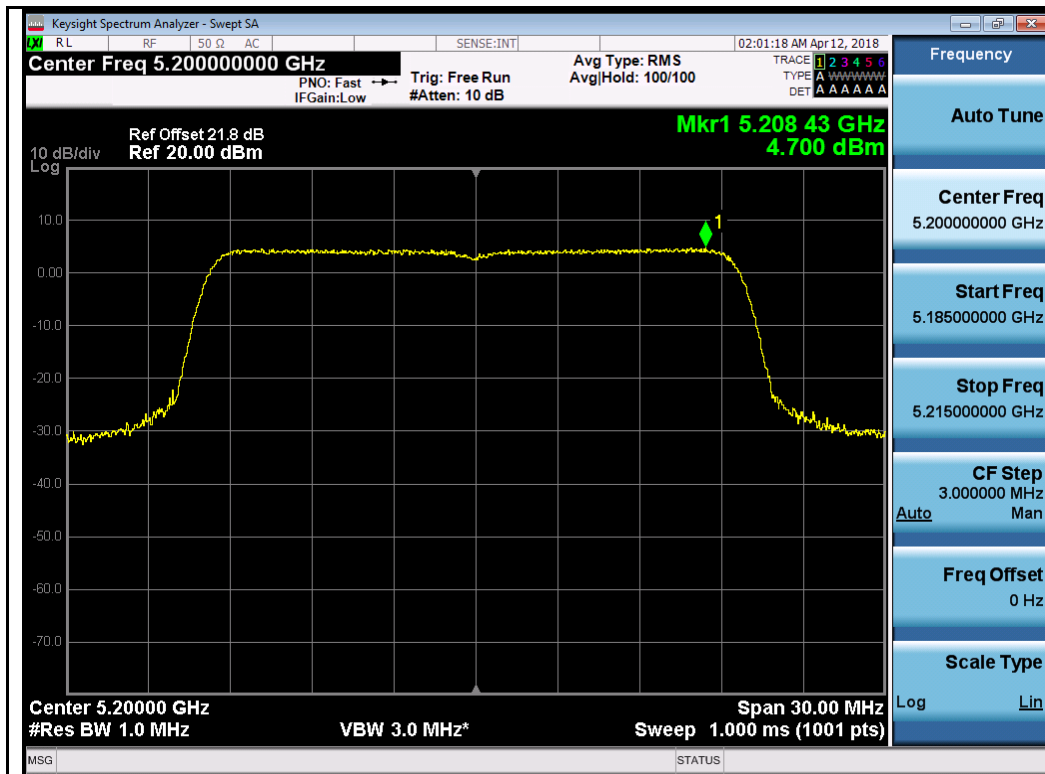




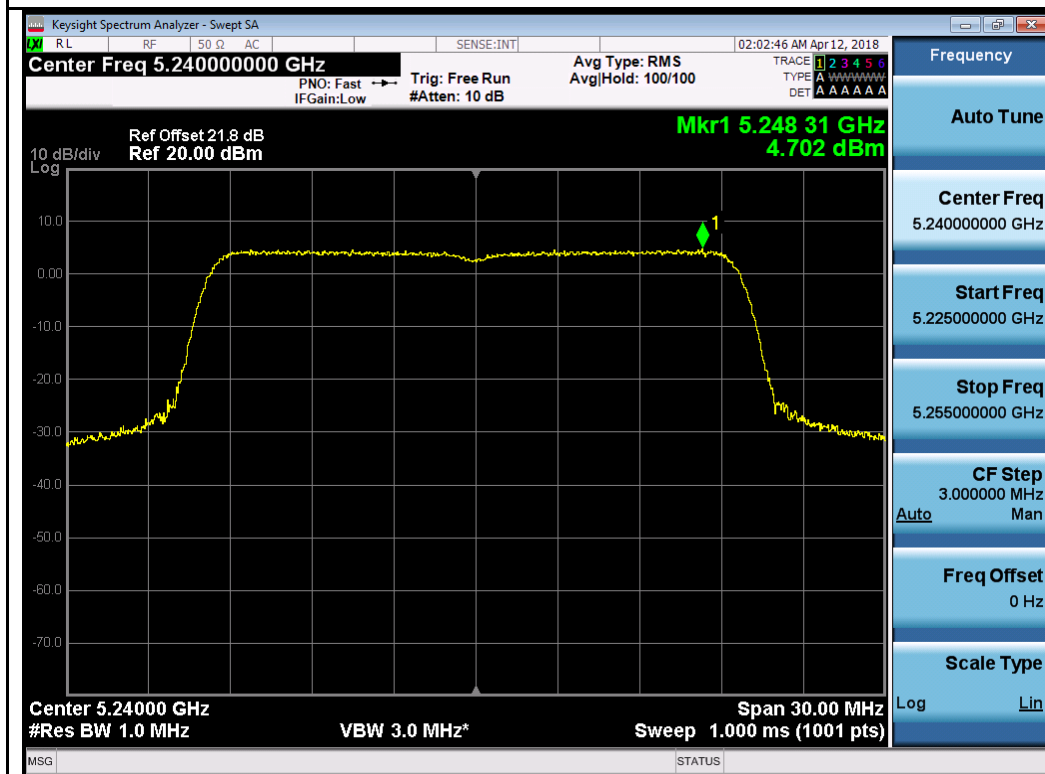
802.11a-5240M



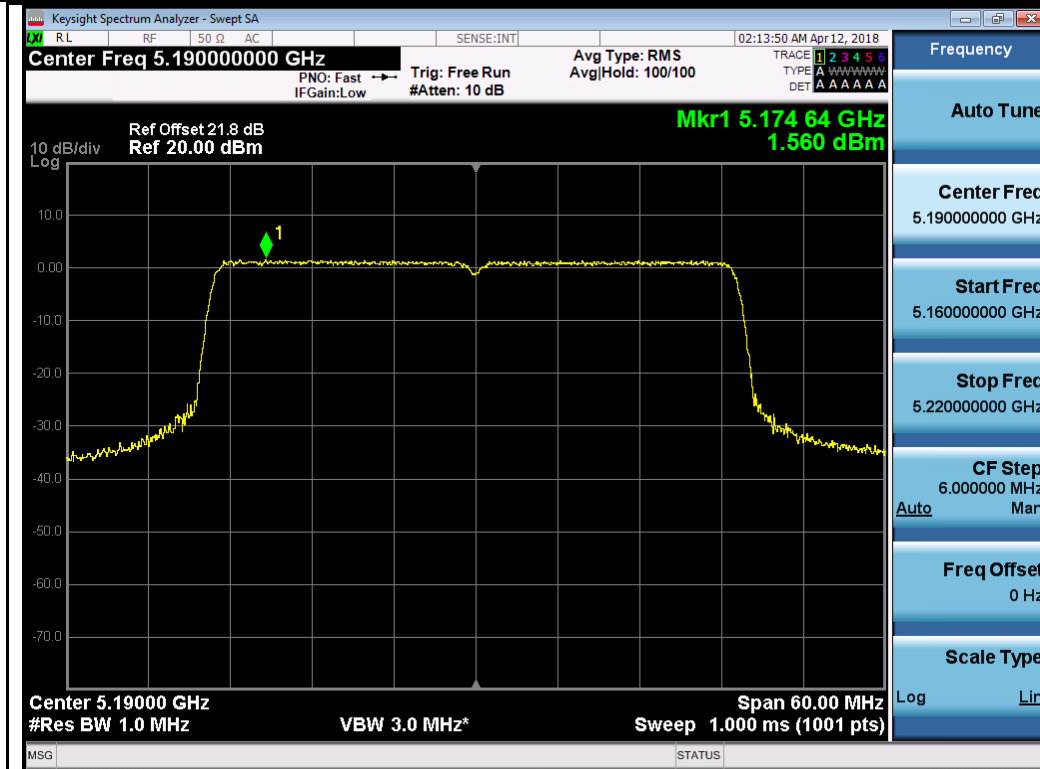
802.11ax20 5180M



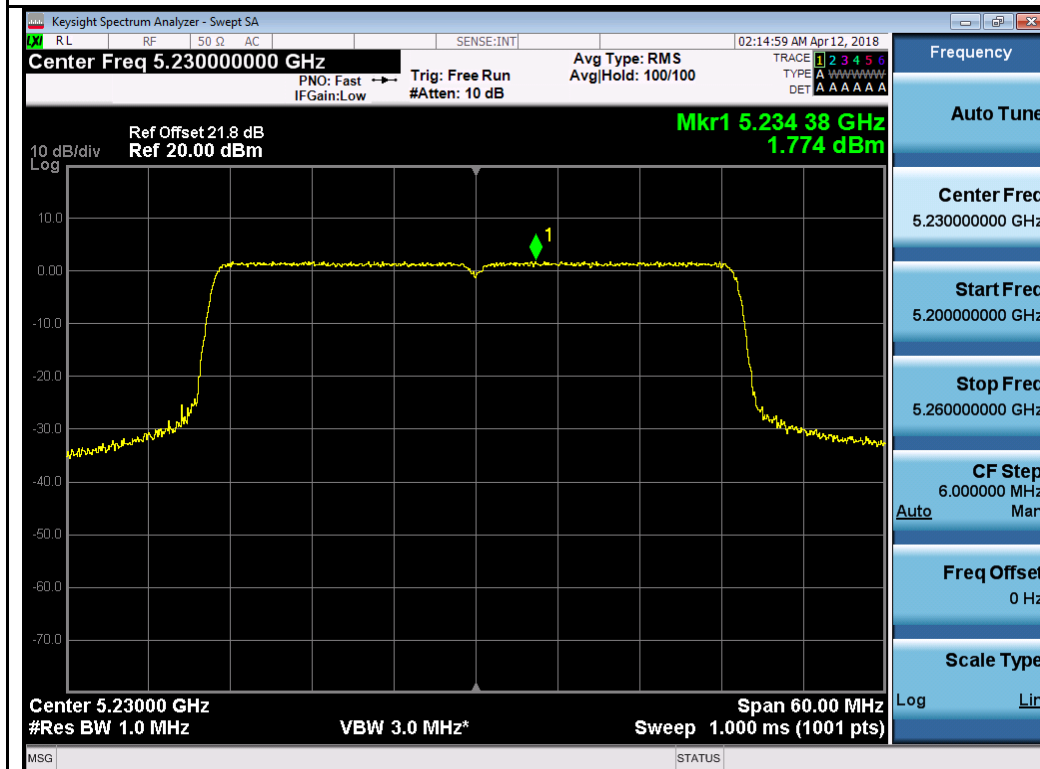
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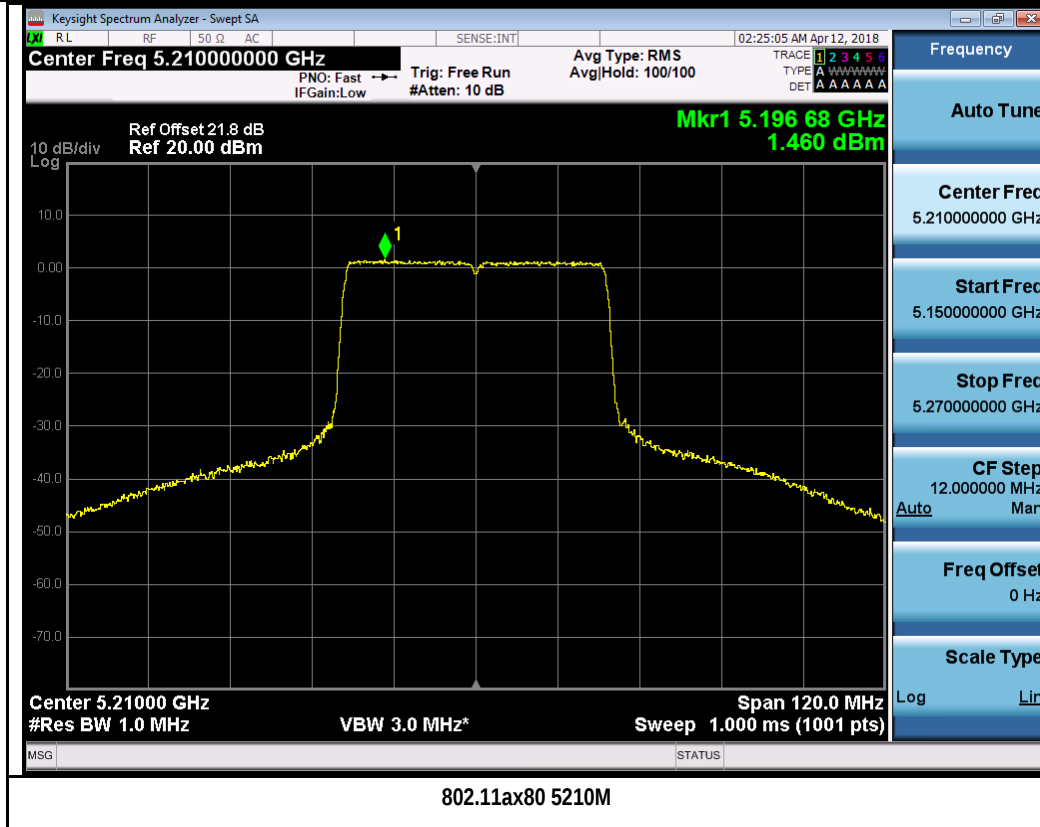
802.11ax20 5240M



802.11ax40 5190M



802.11ax40 5230M



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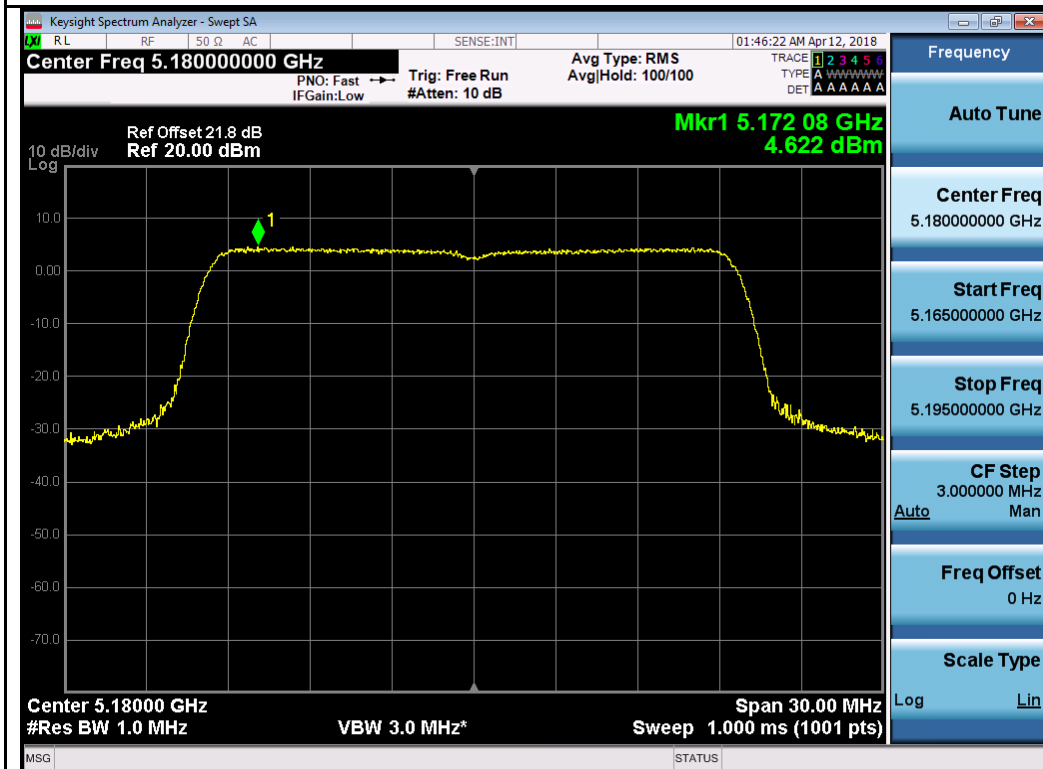
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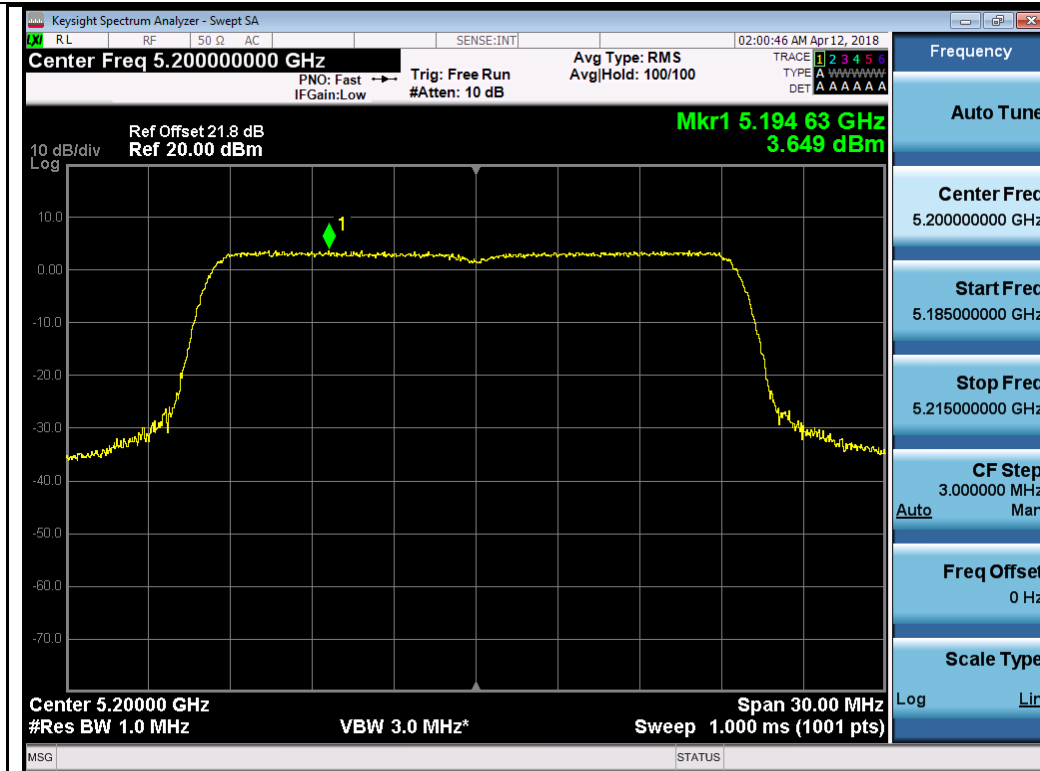
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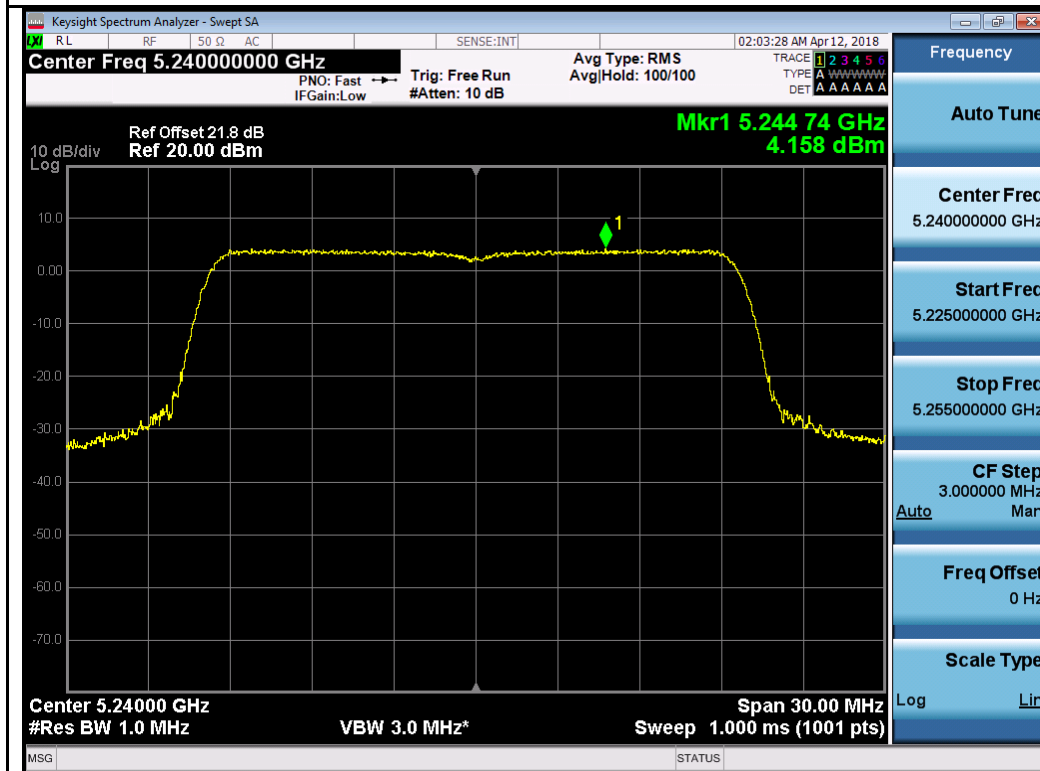
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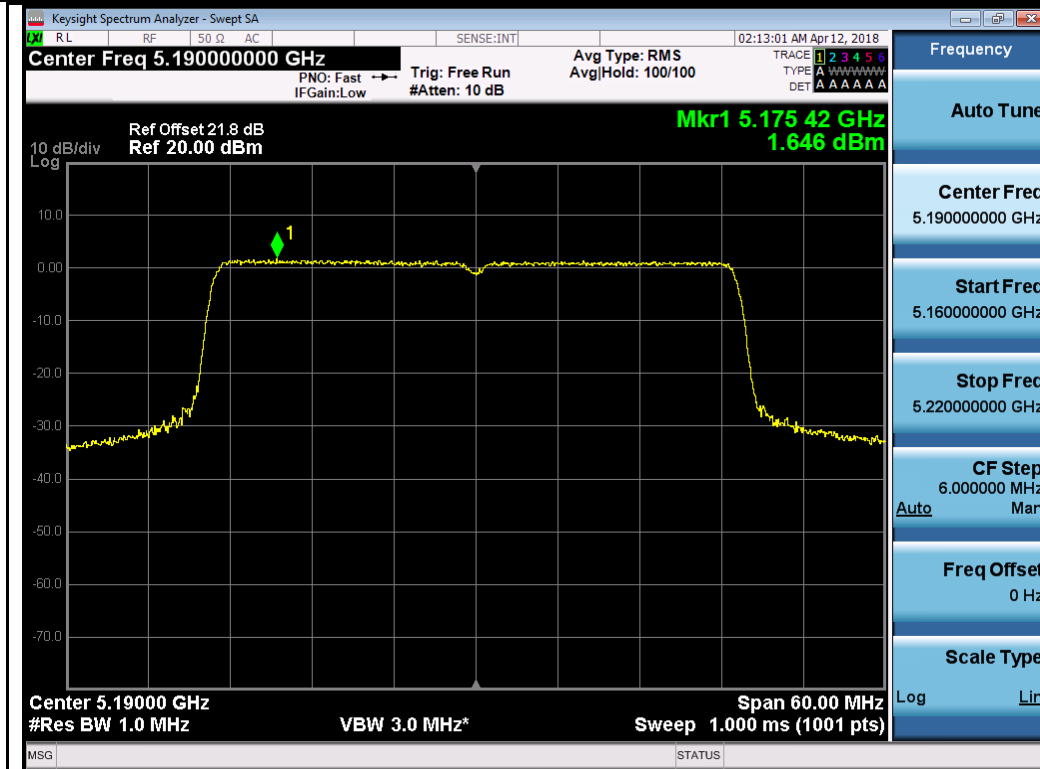
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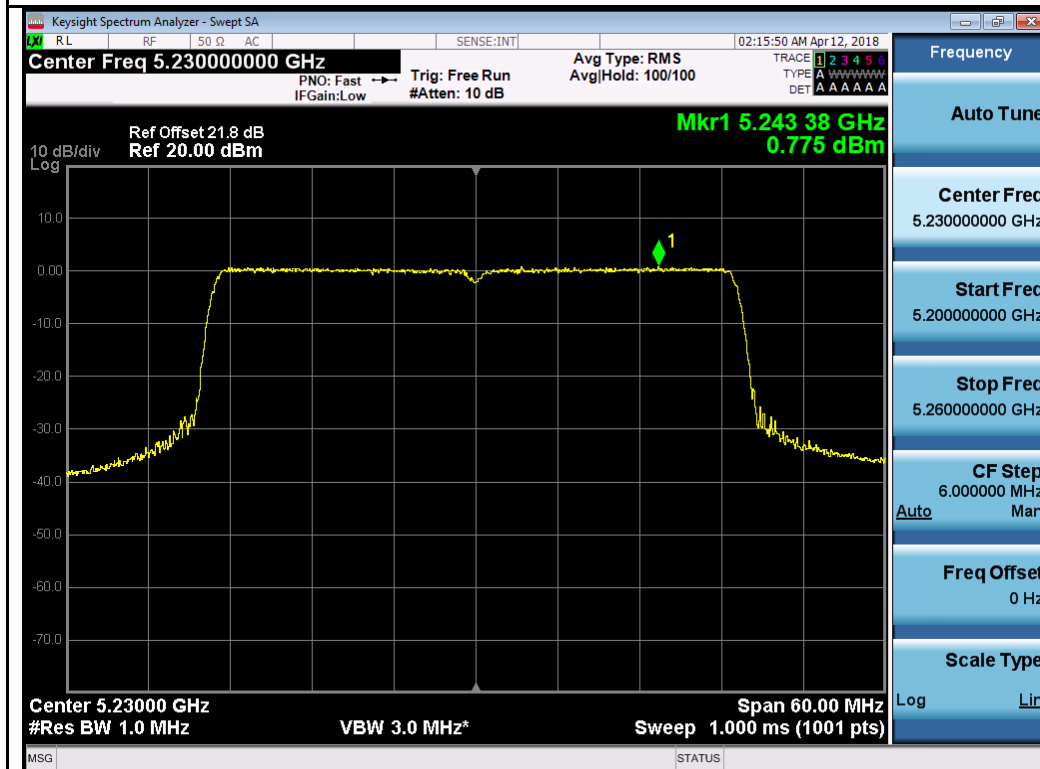
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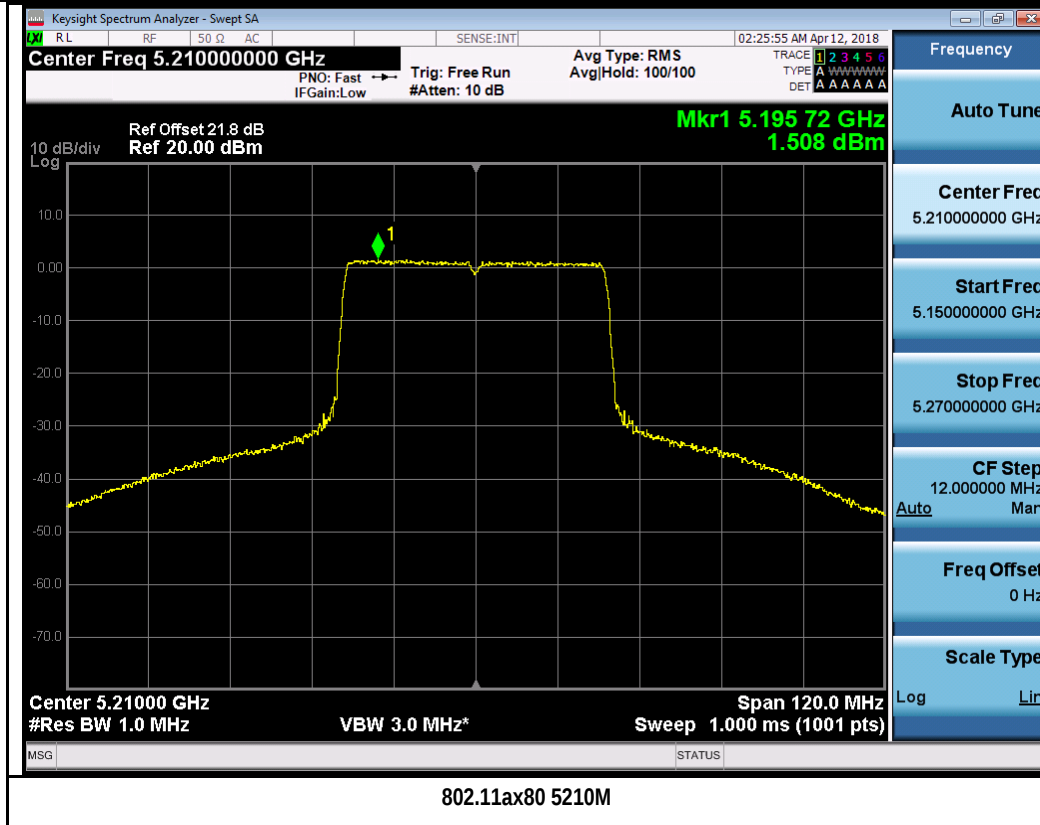
802.11ax20 5240M



802.11ax40 5190M



802.11ax40 5230M



Chain 2:



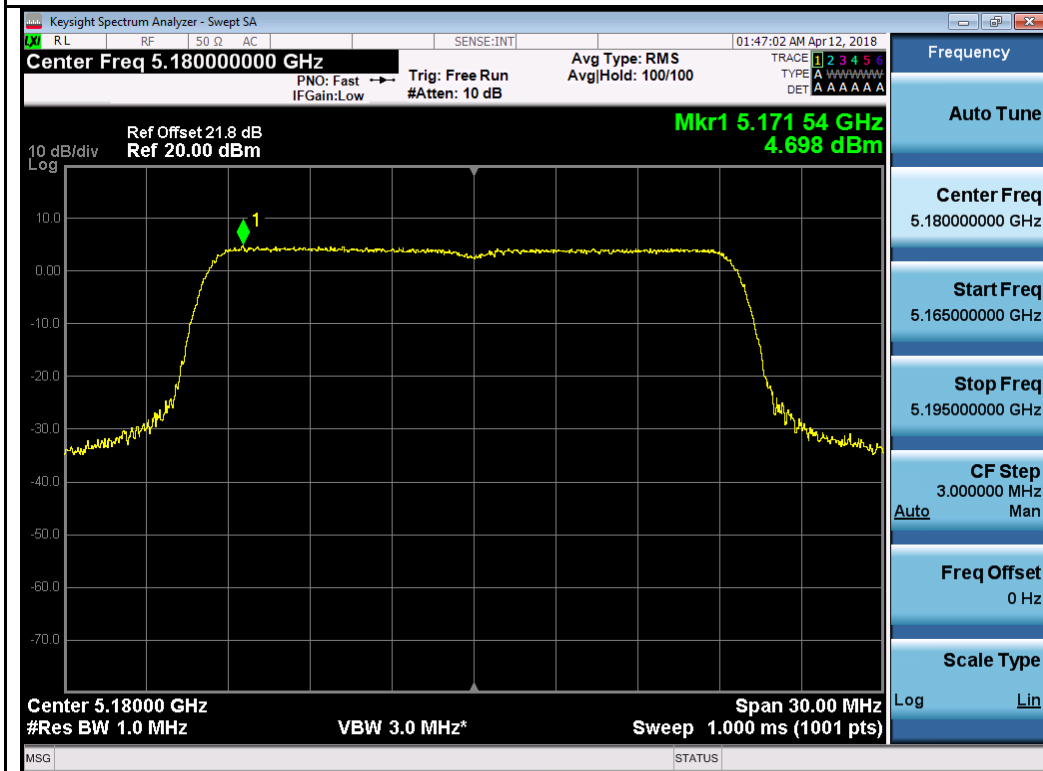
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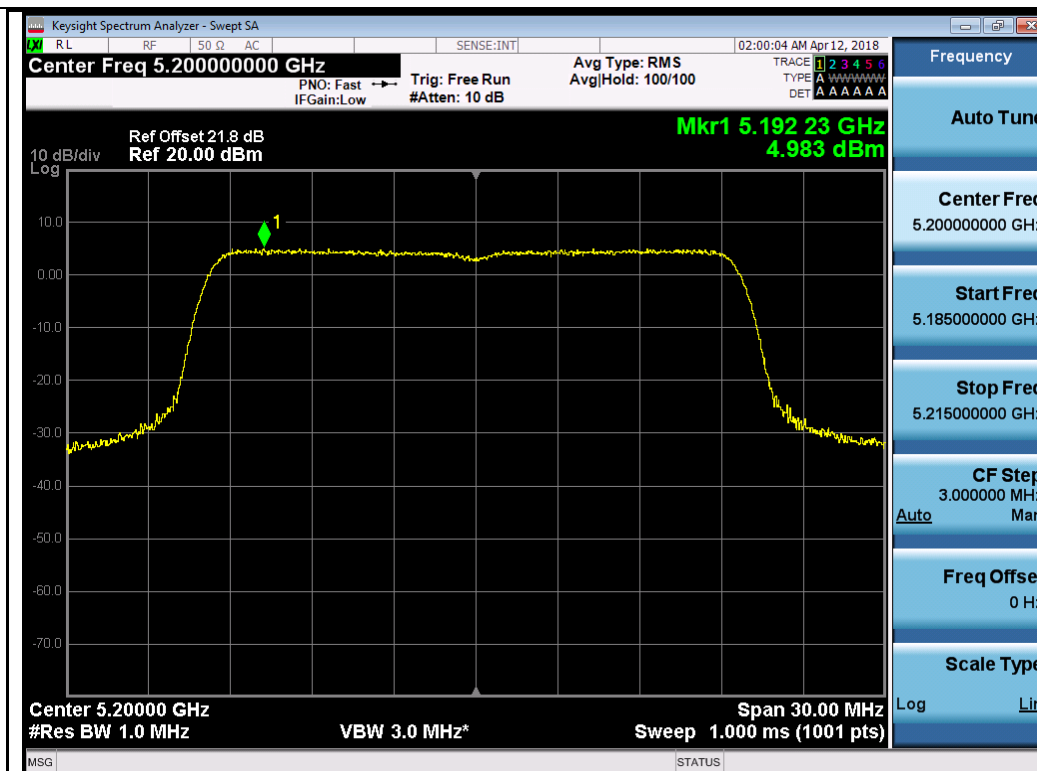
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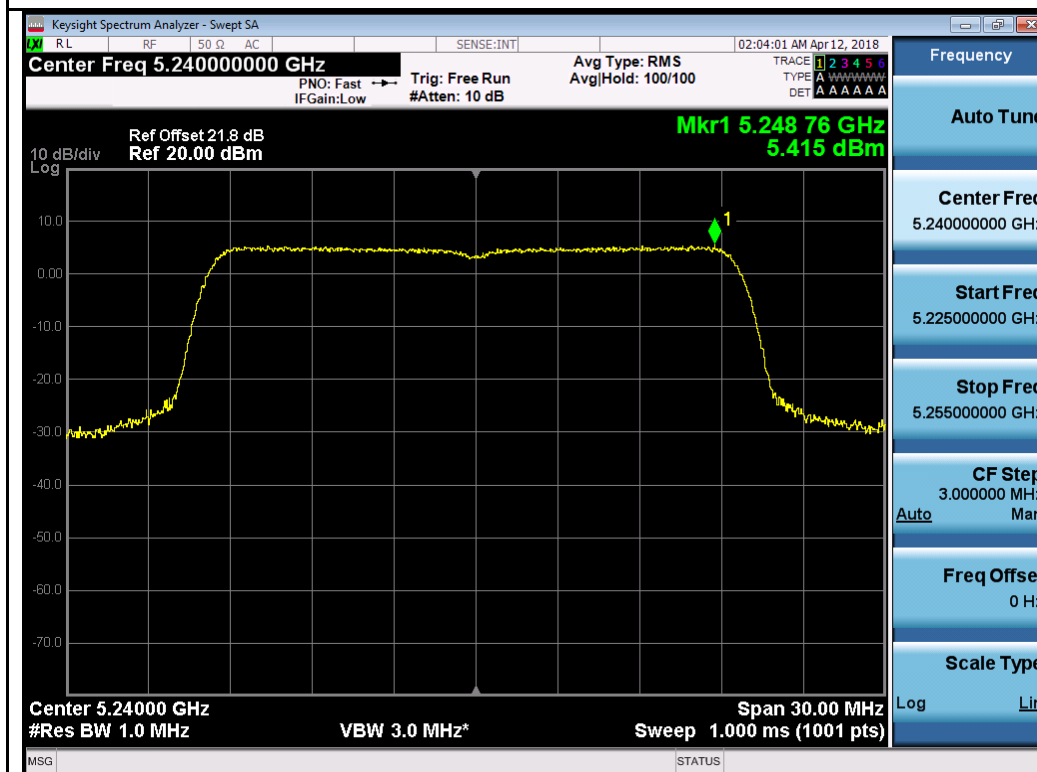
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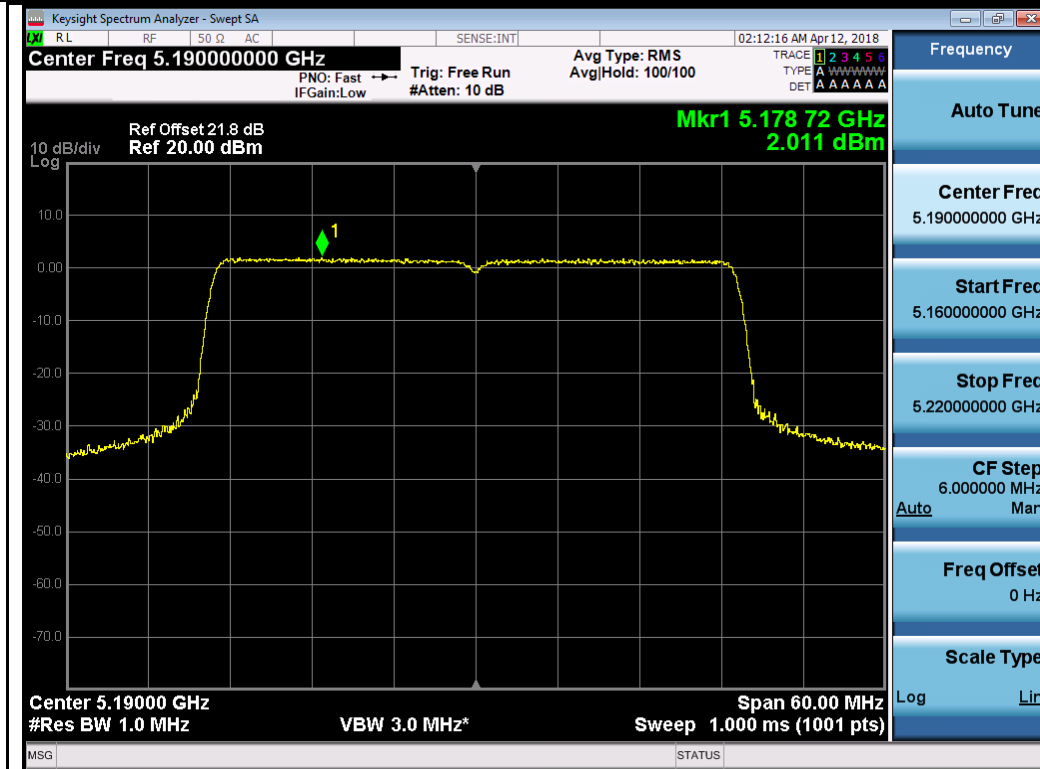
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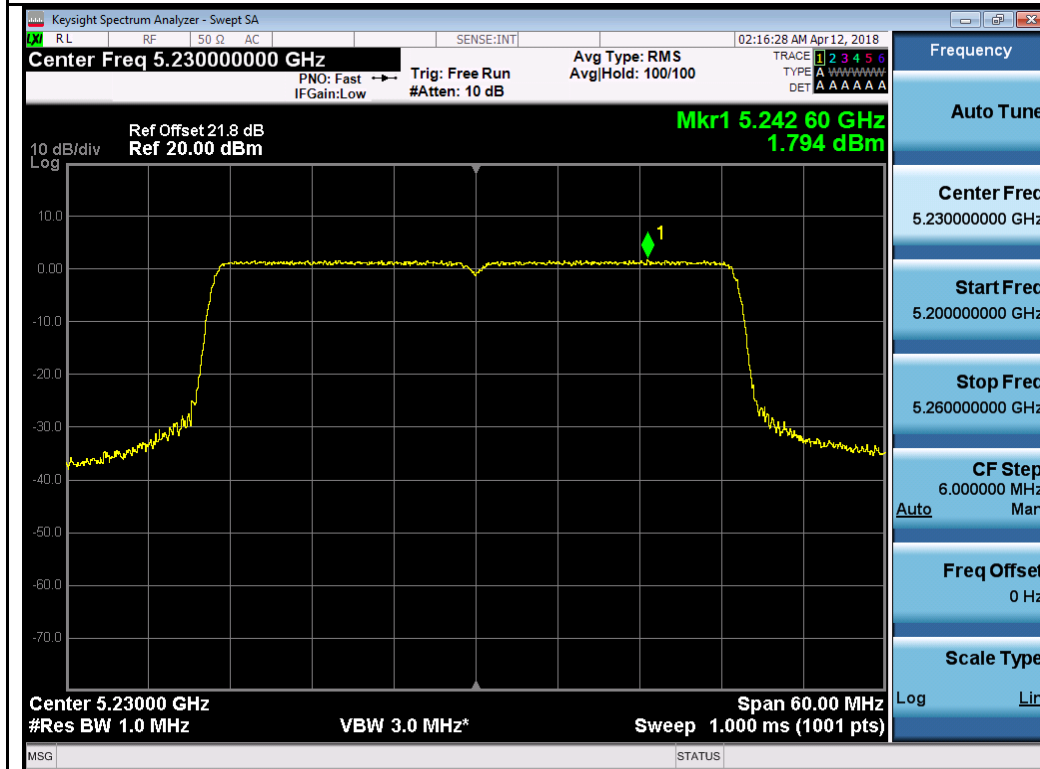
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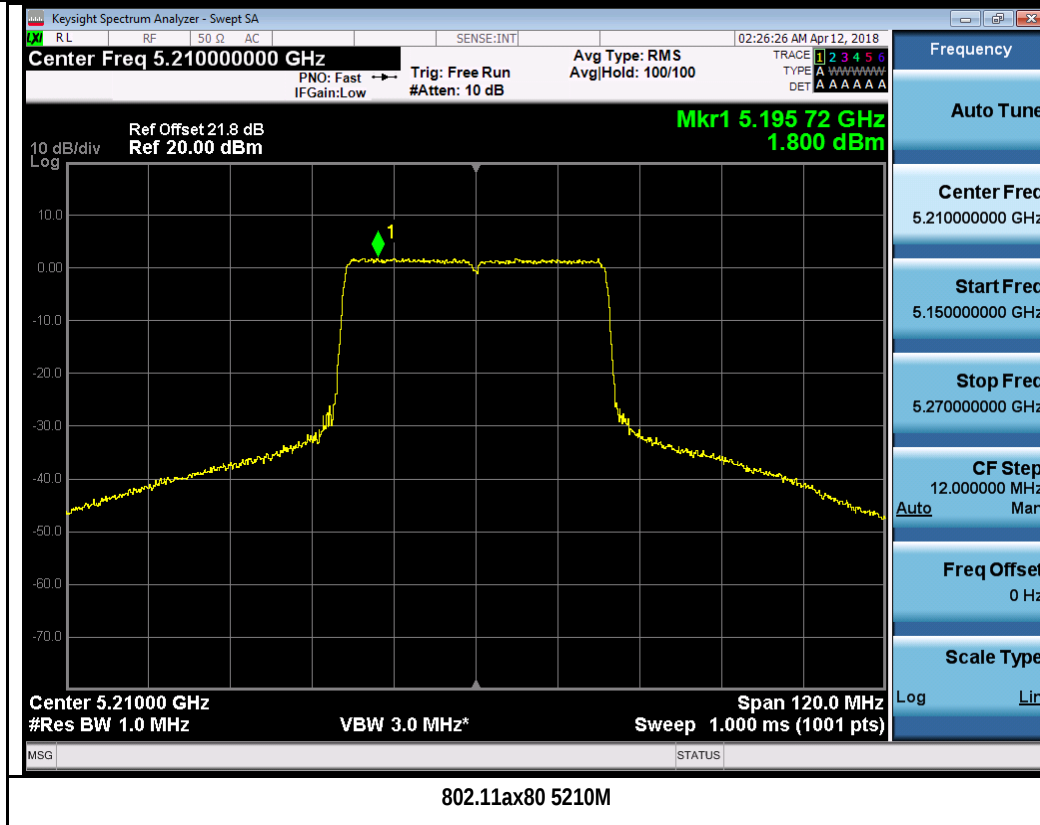
802.11ax20 5240M



802.11ax40 5190M



802.11ax40 5230M



Chain 3:



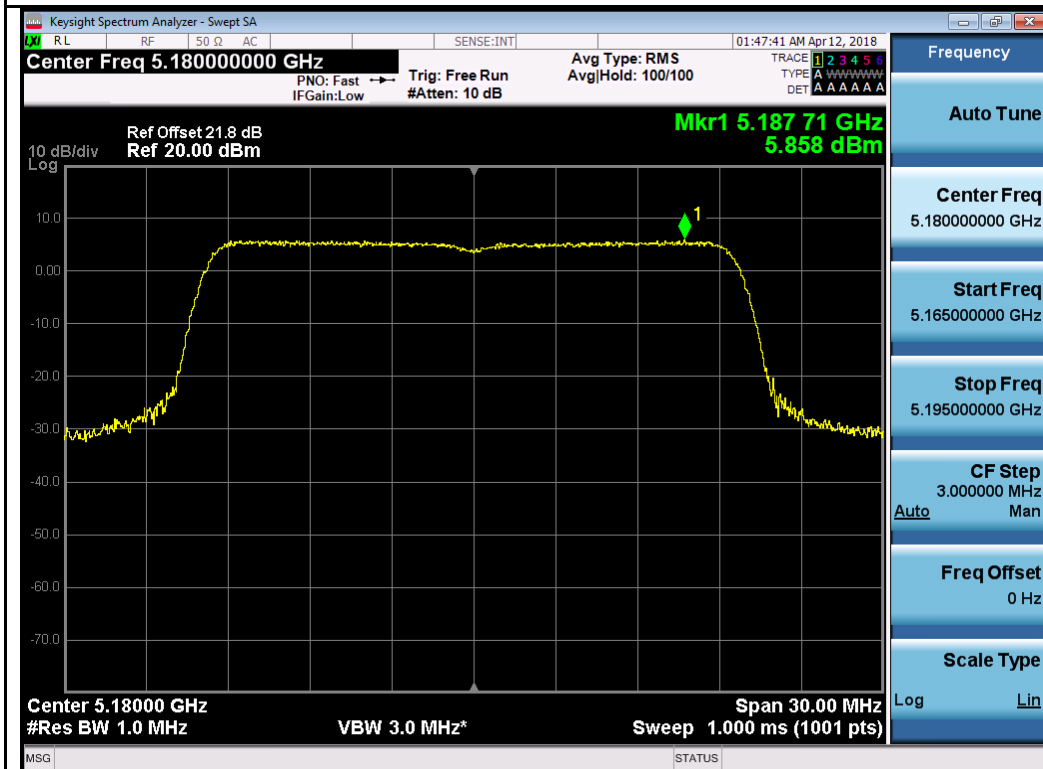
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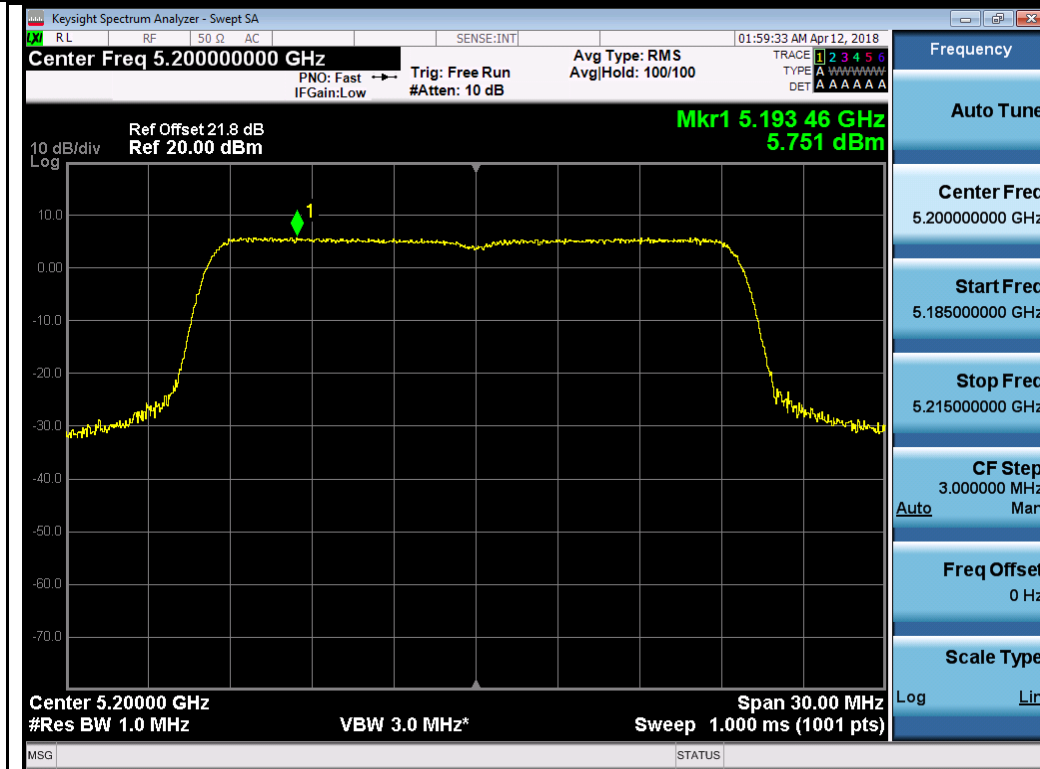
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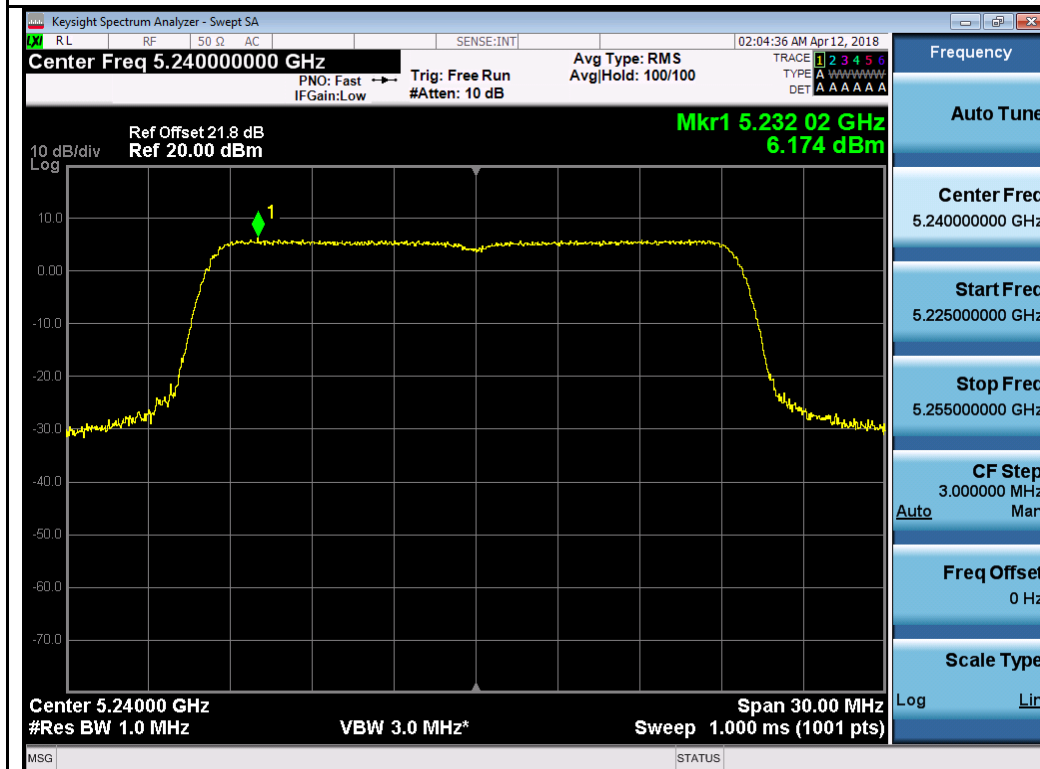
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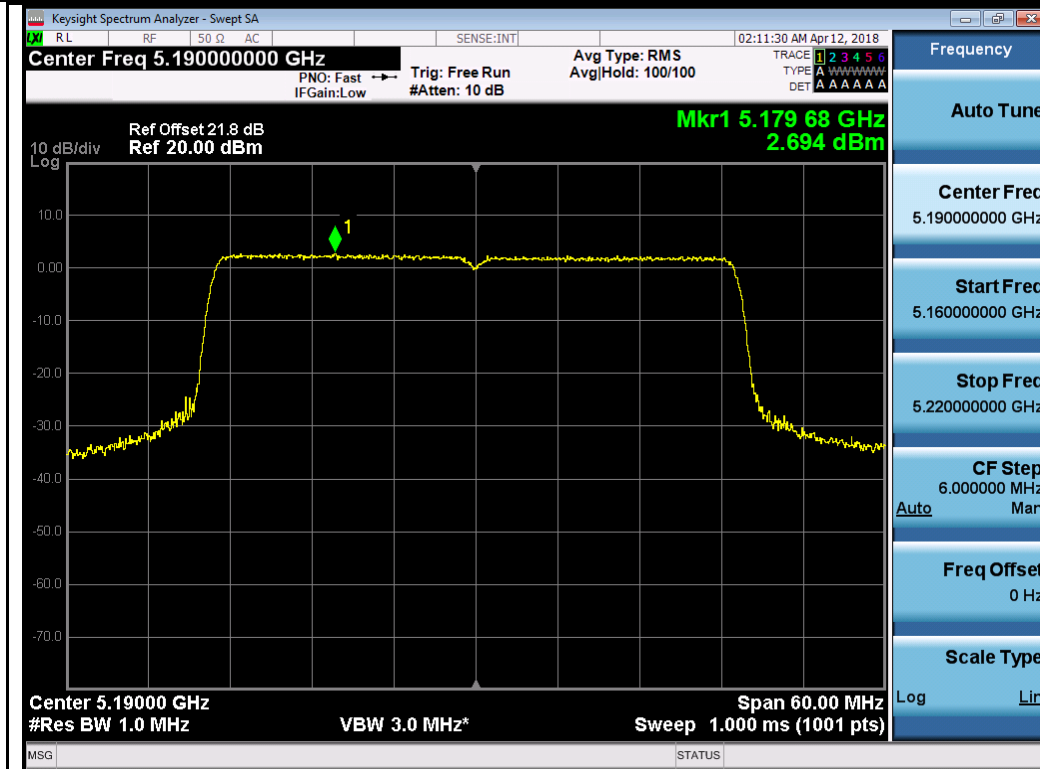
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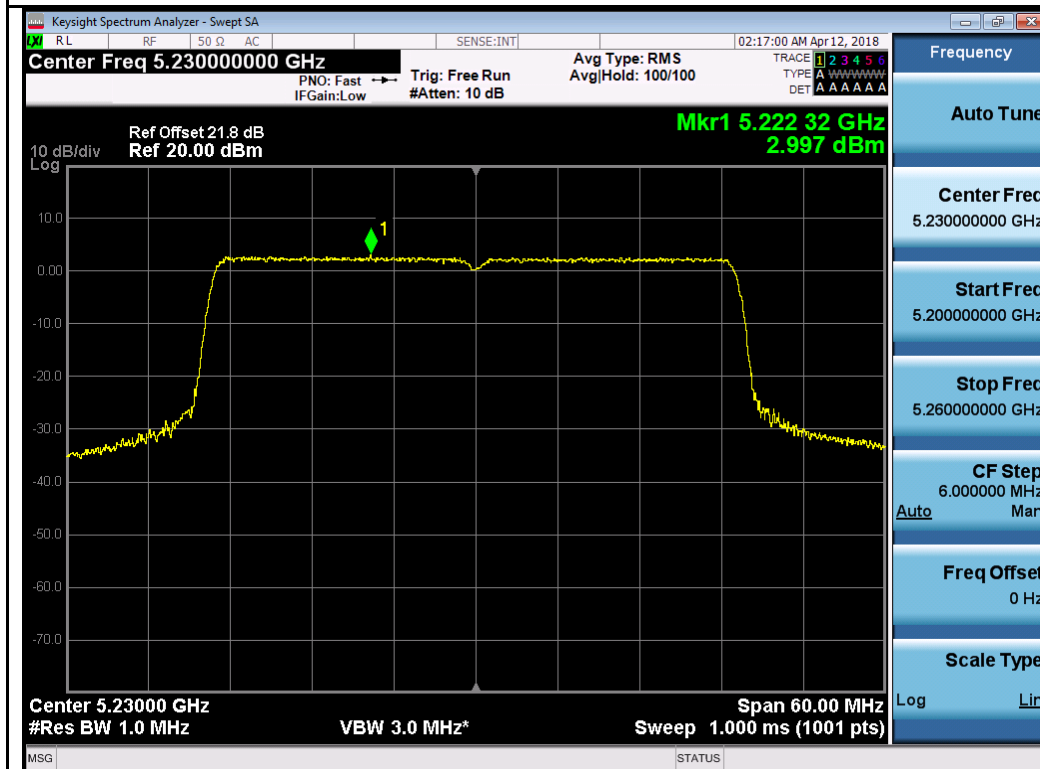
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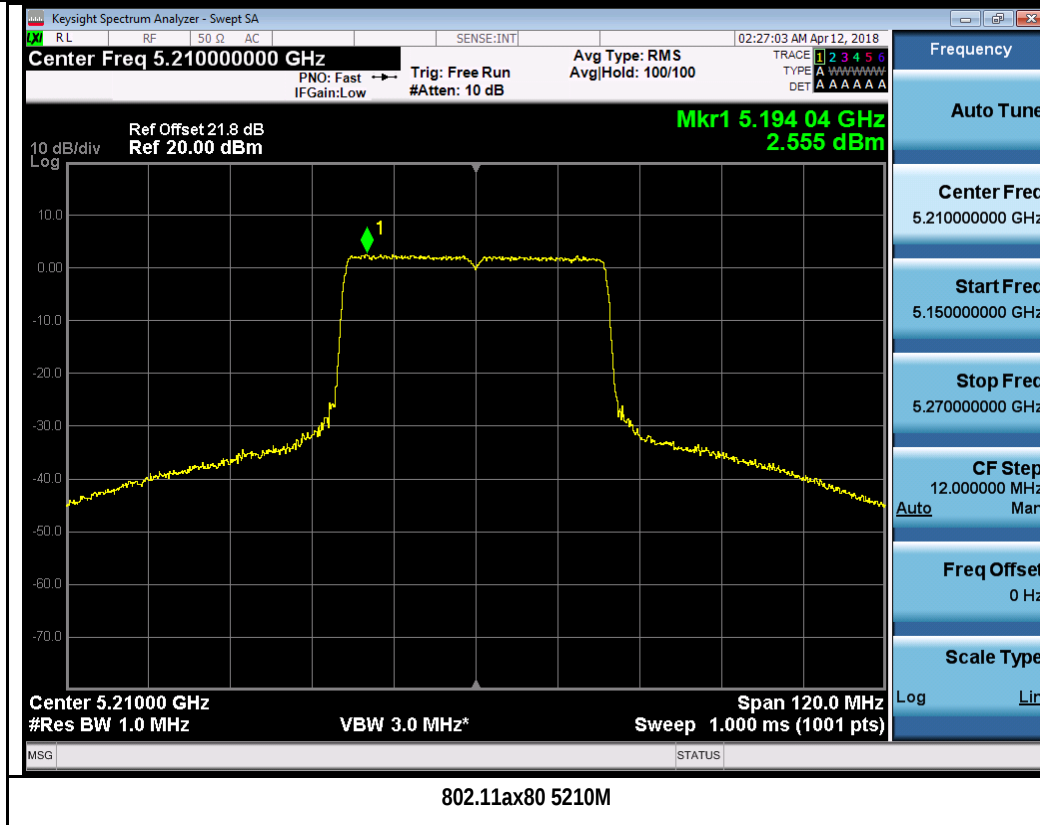
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802.11ax40 5190M



802.11ax40 5230M



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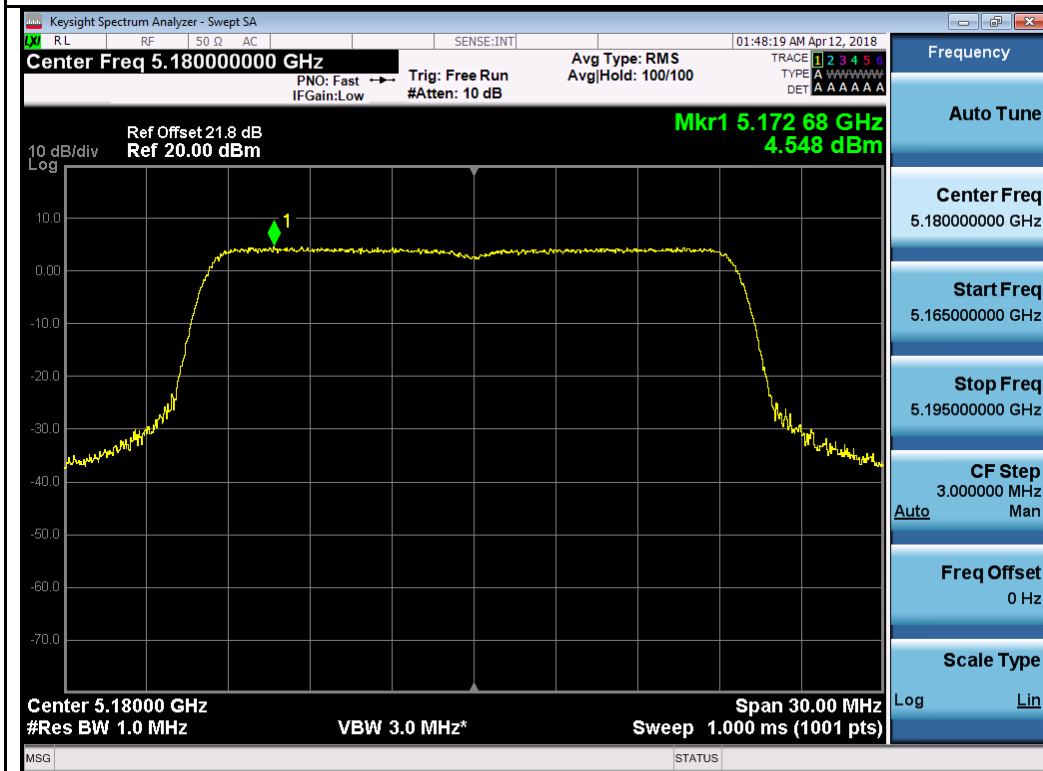
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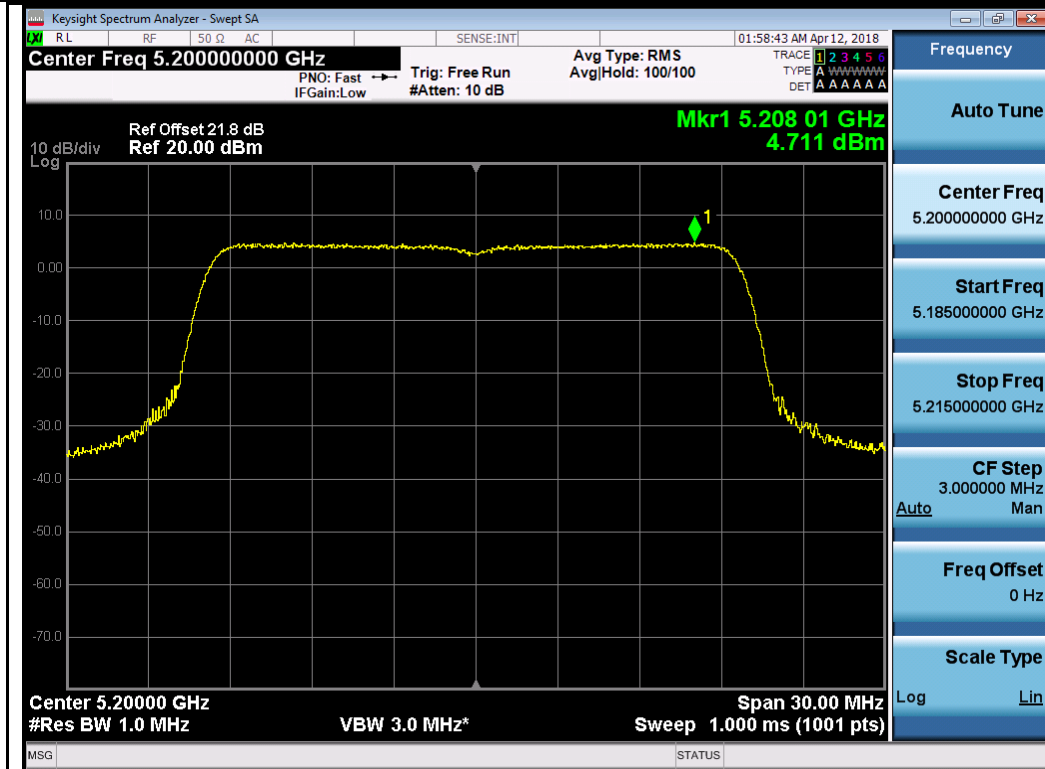
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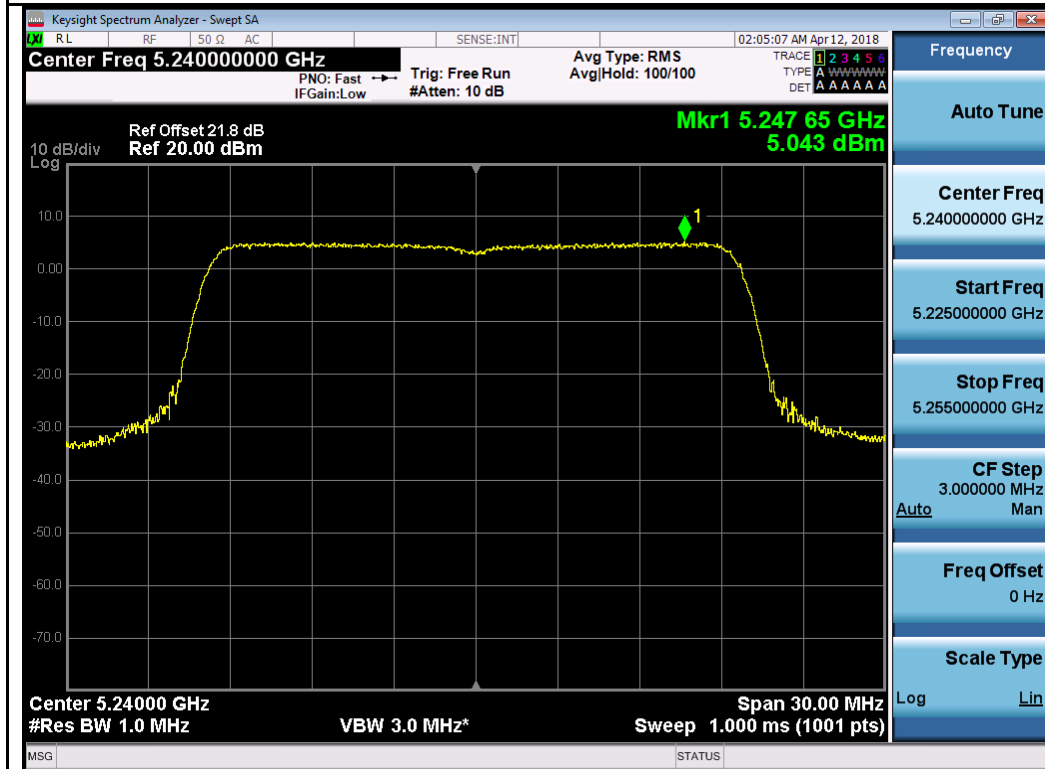
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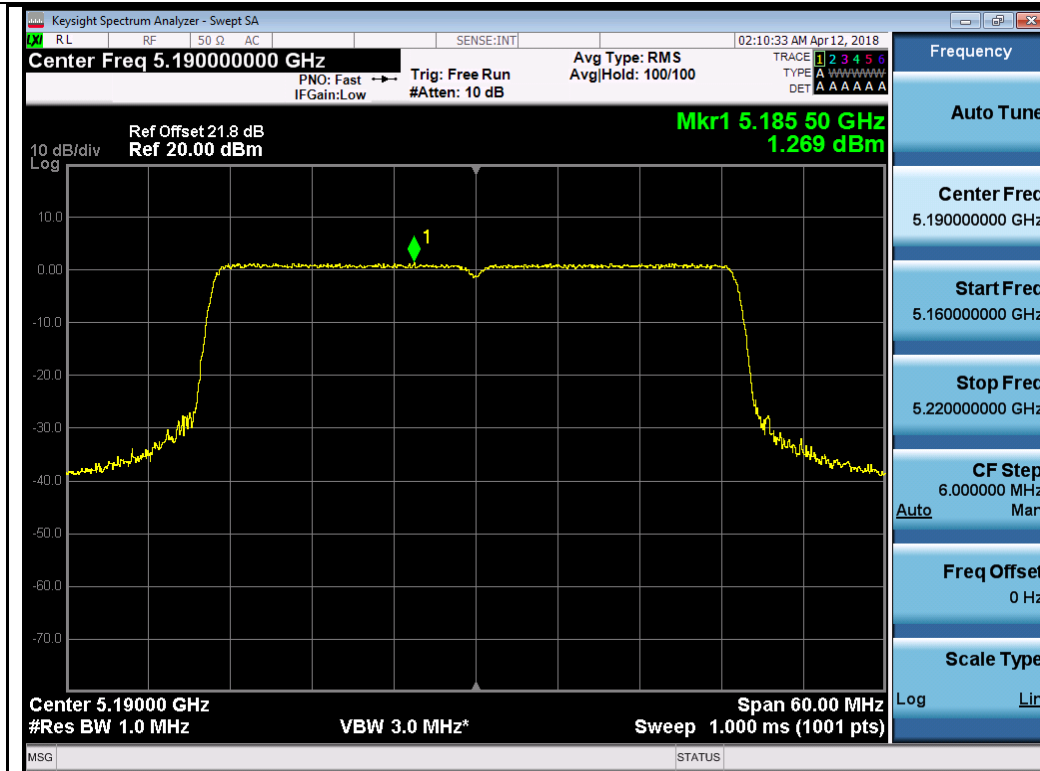
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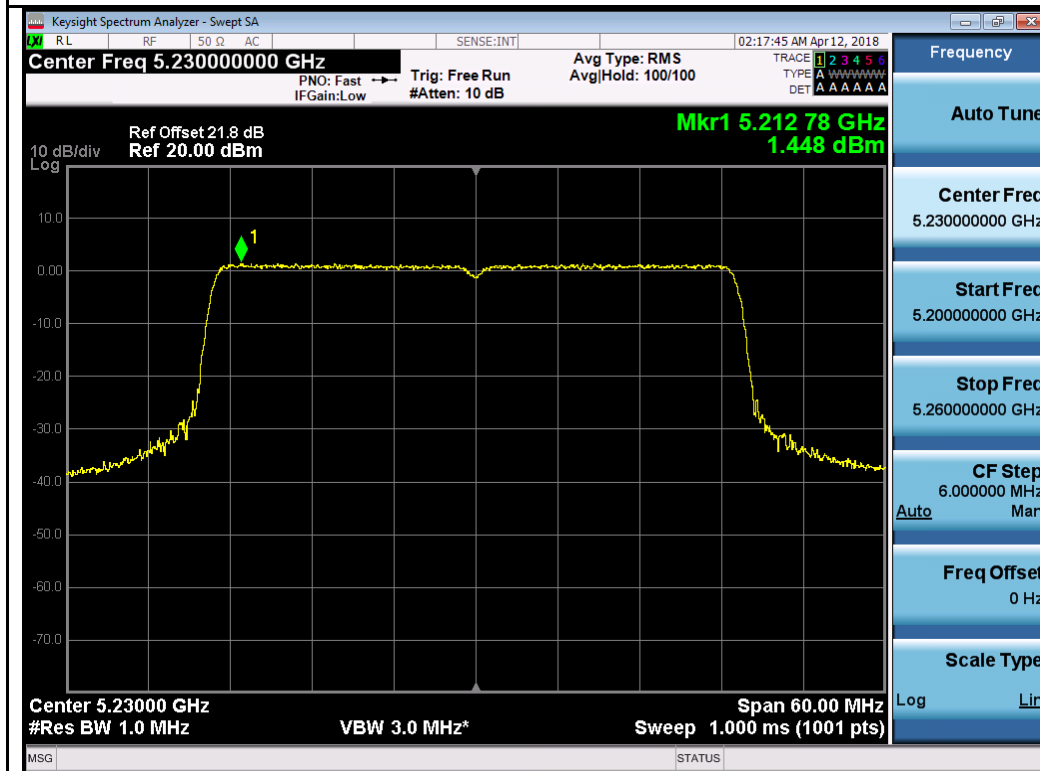
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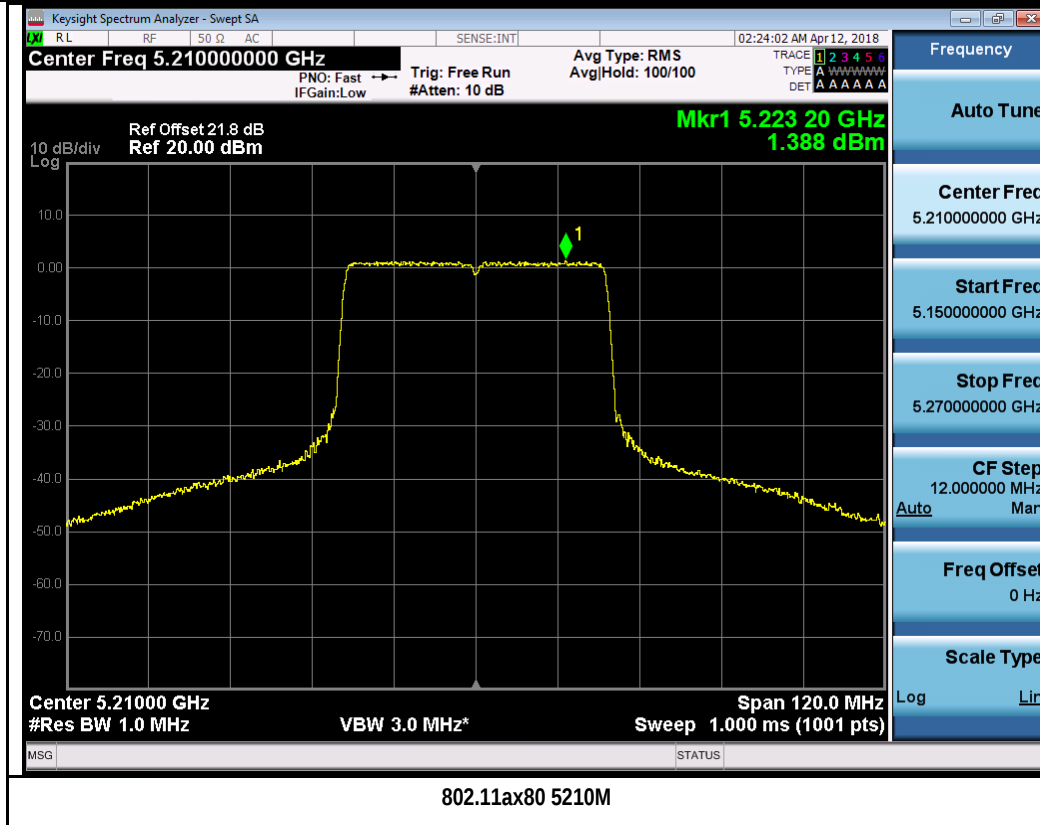
802.11ax20 5240M



802.11ax40 5190M



802.11ax40 5230M



Chain 5:



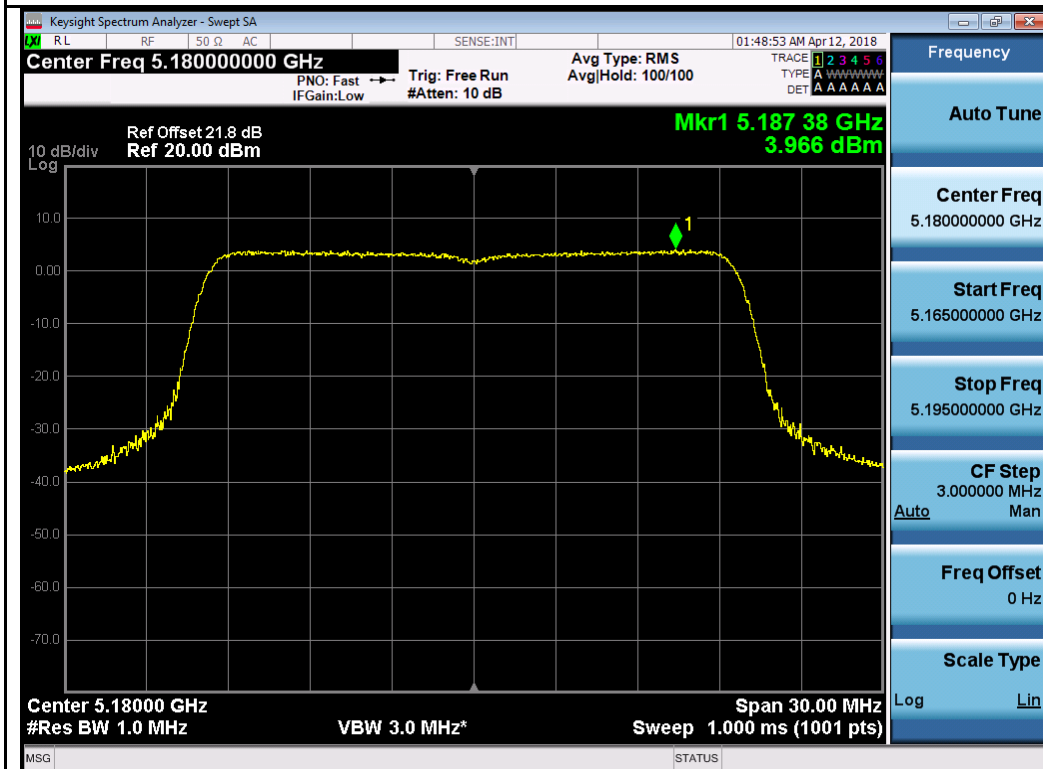
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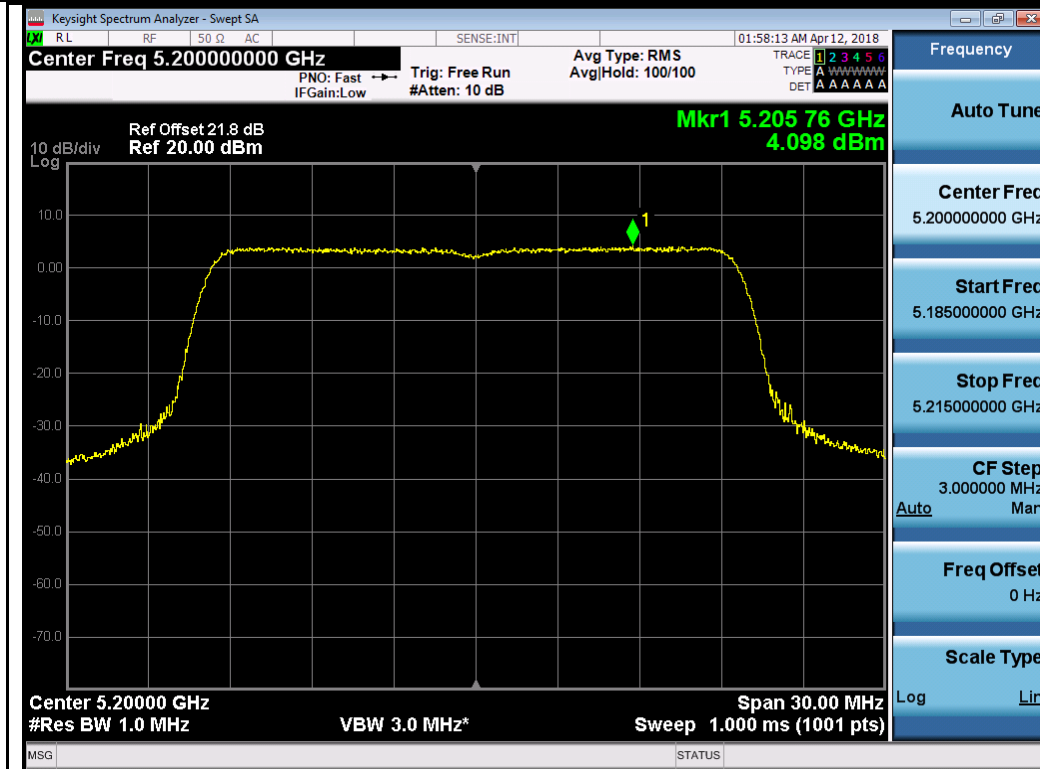
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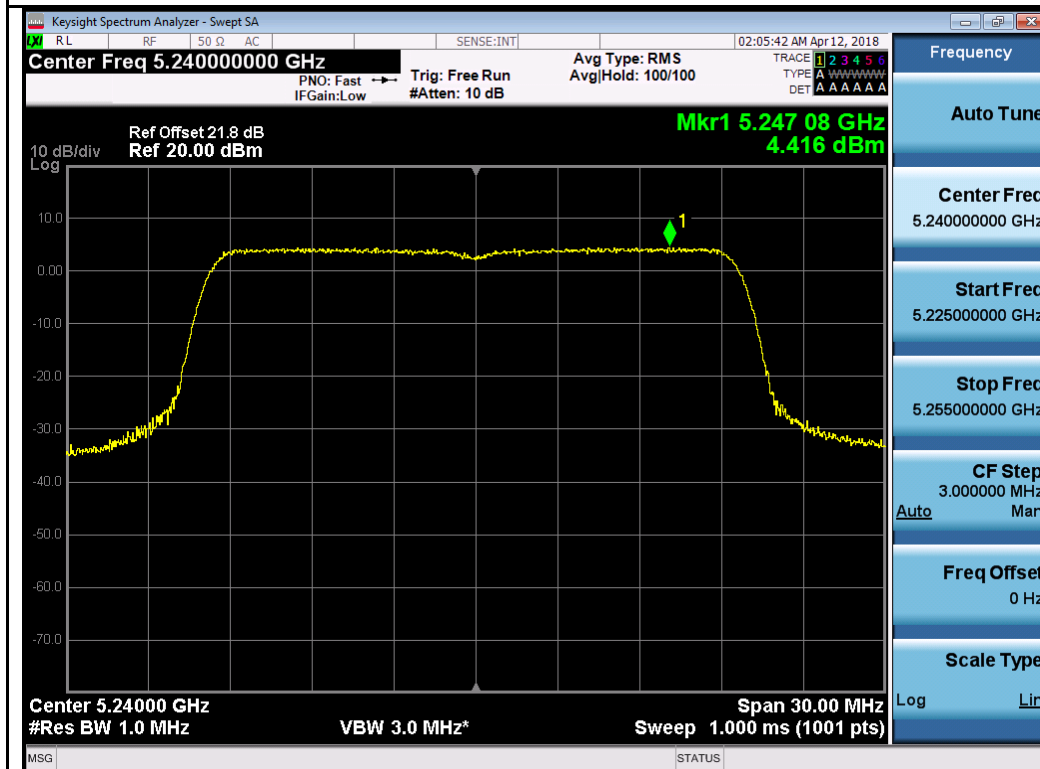
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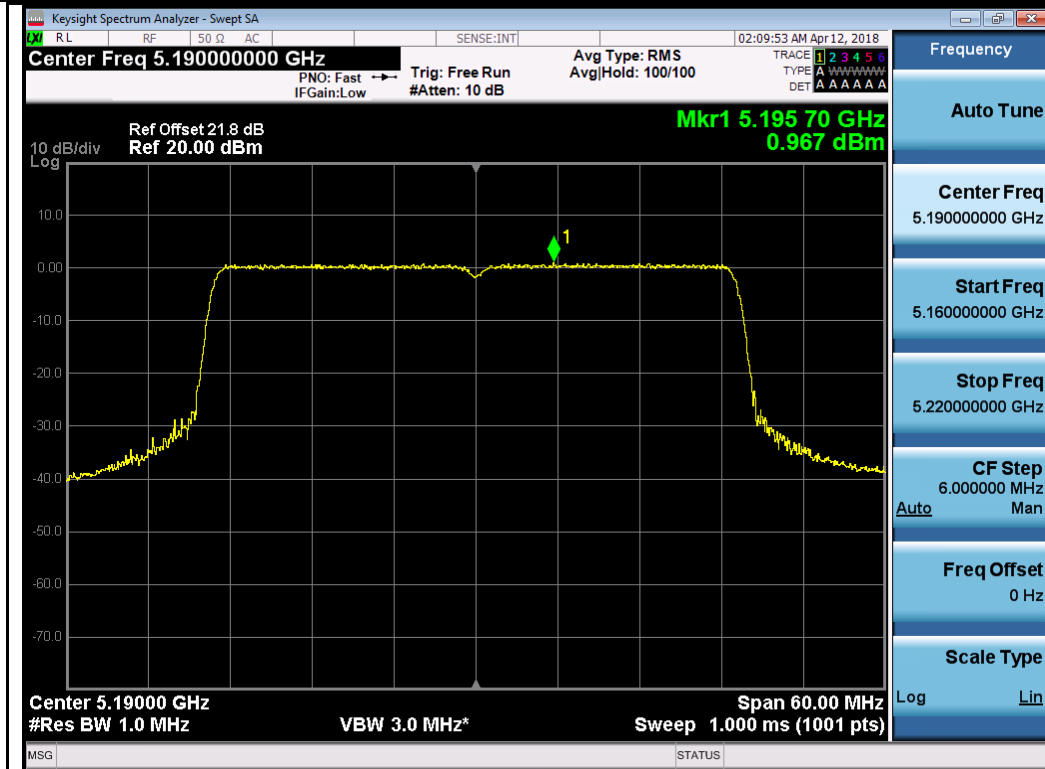
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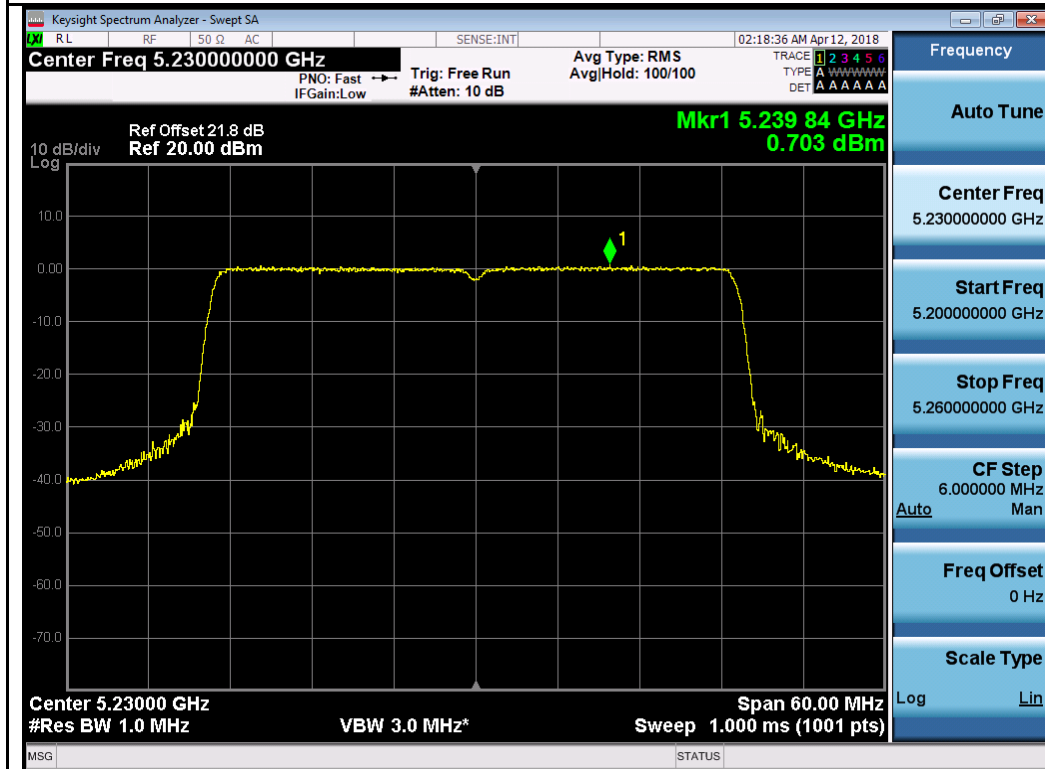
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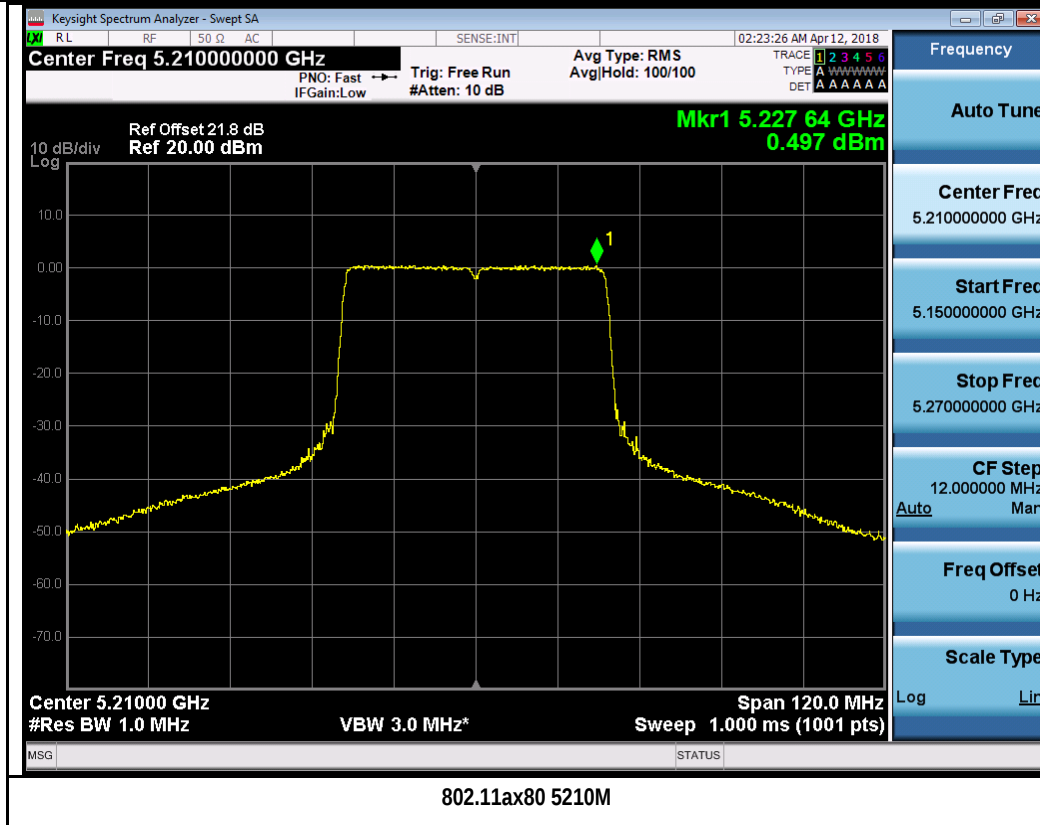
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802.11ax40 5190M



802.11ax40 5230M



Chain 6:



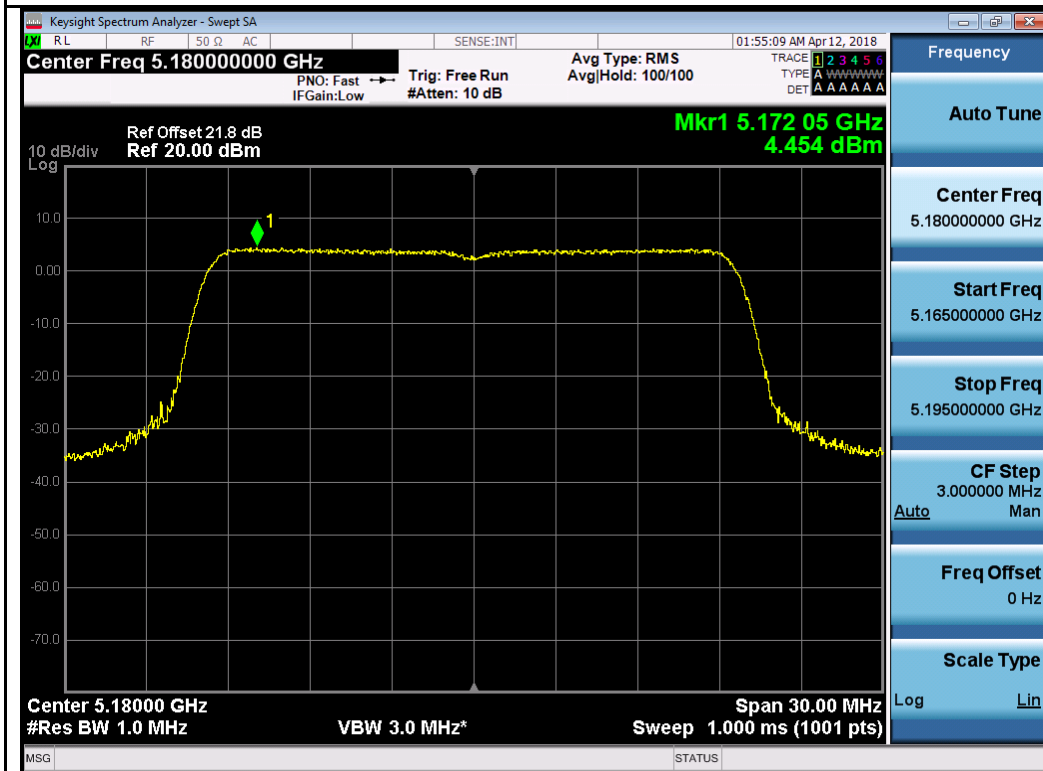
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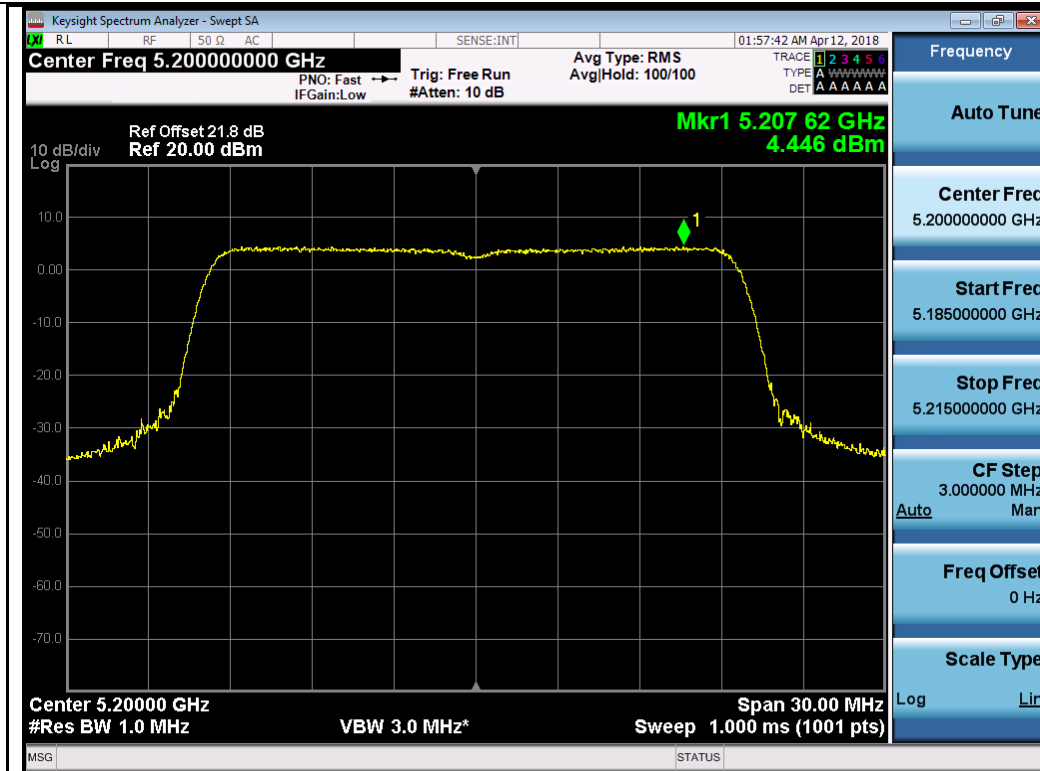
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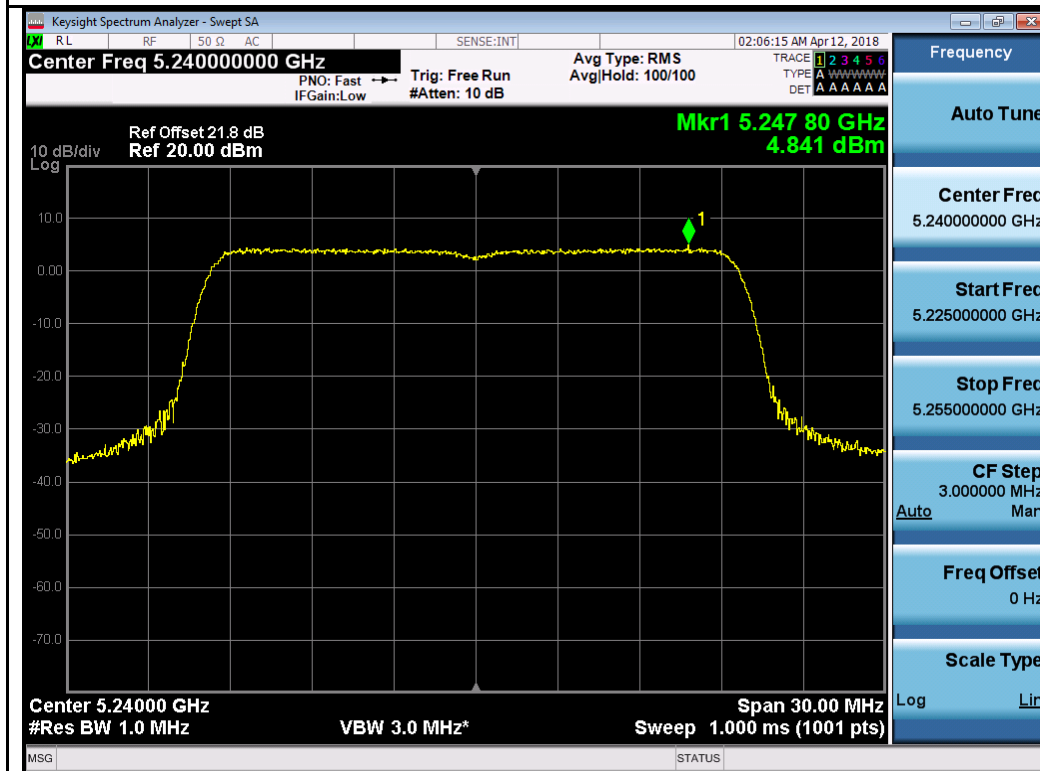
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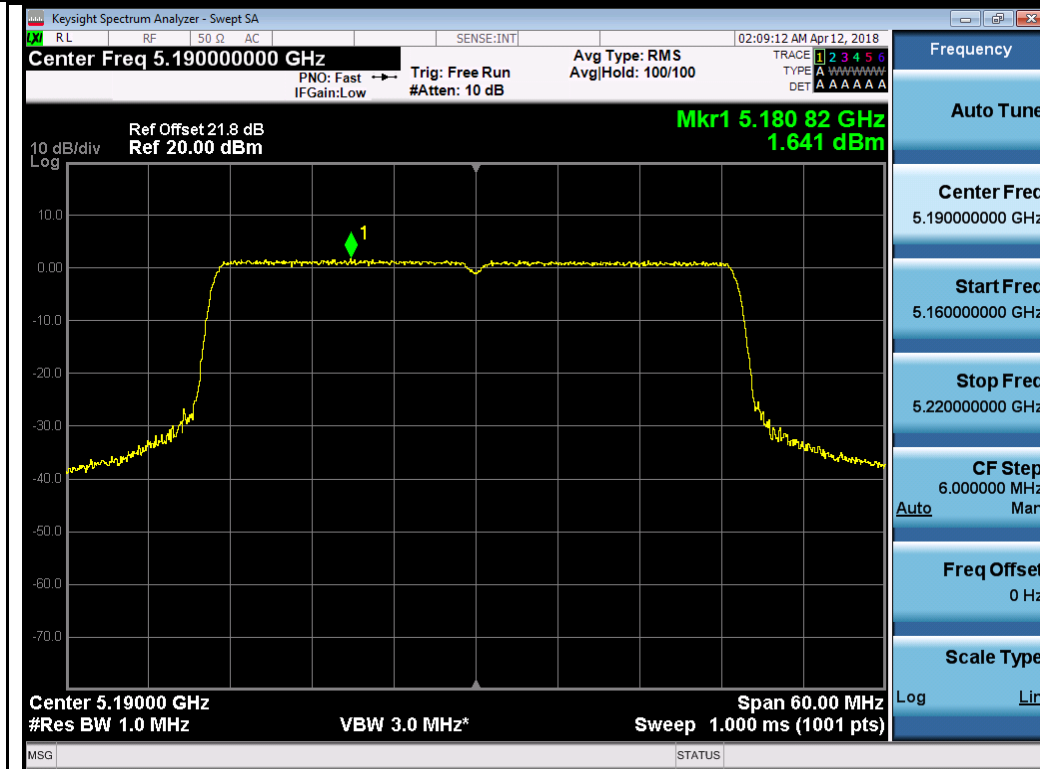
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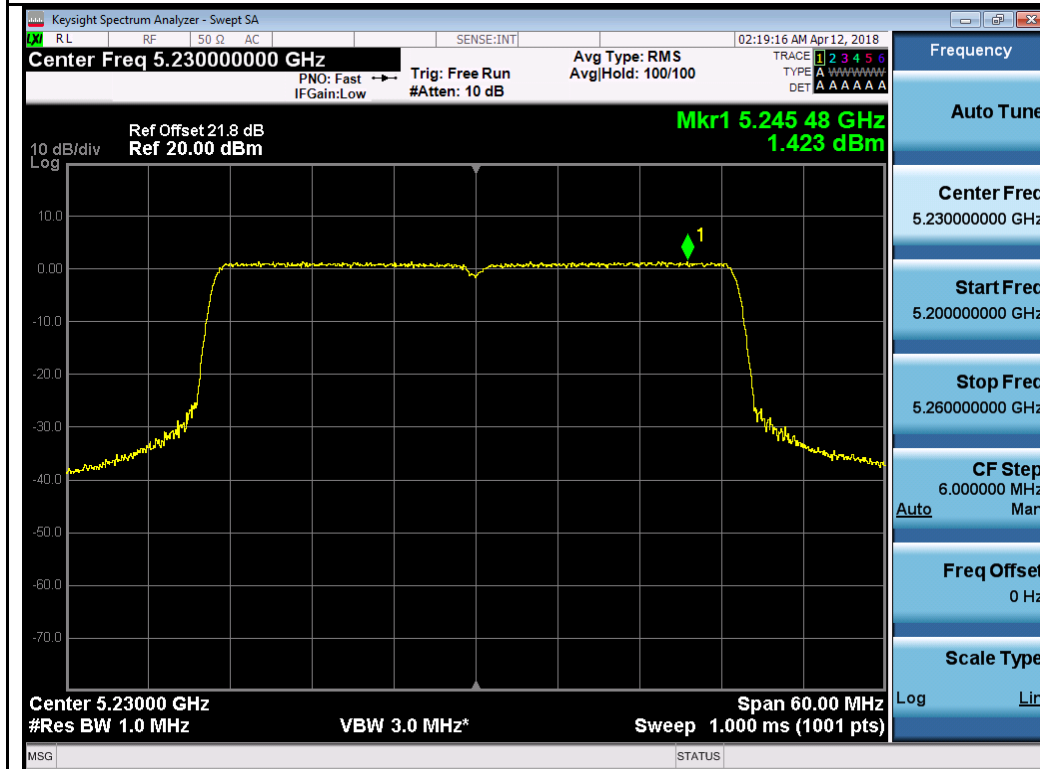
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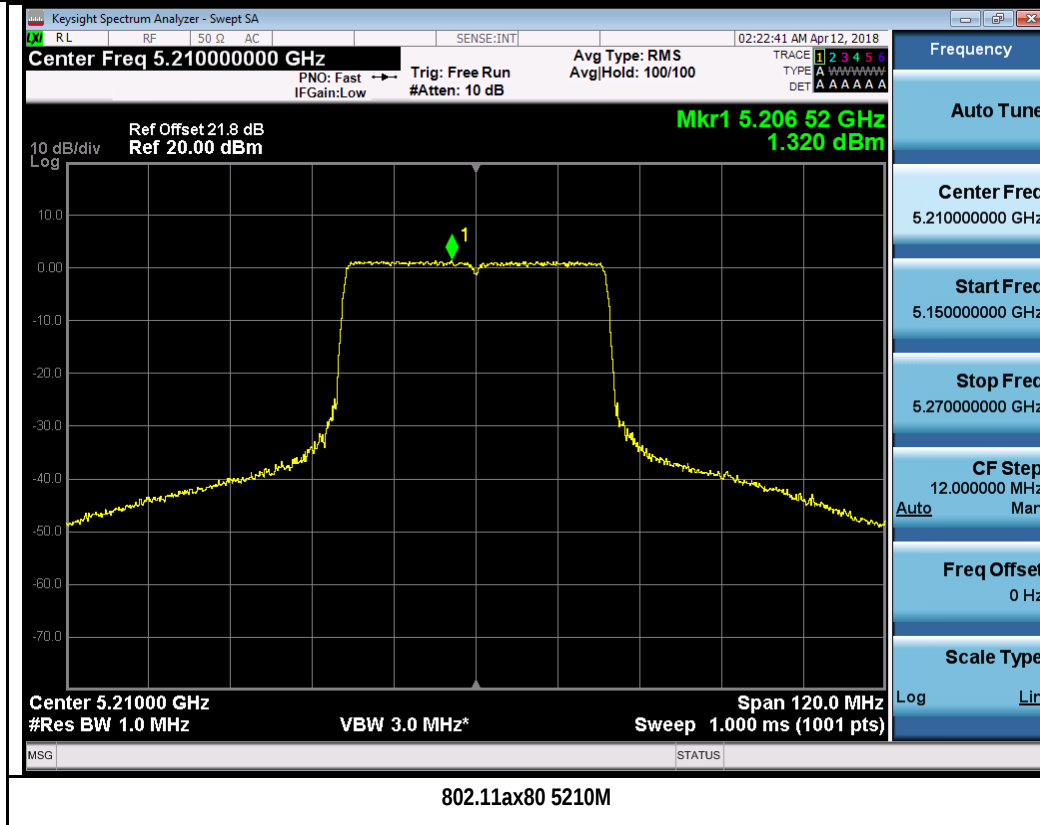
802.11ax20 5240M



802.11ax40 5190M



802.11ax40 5230M



Chain 7:



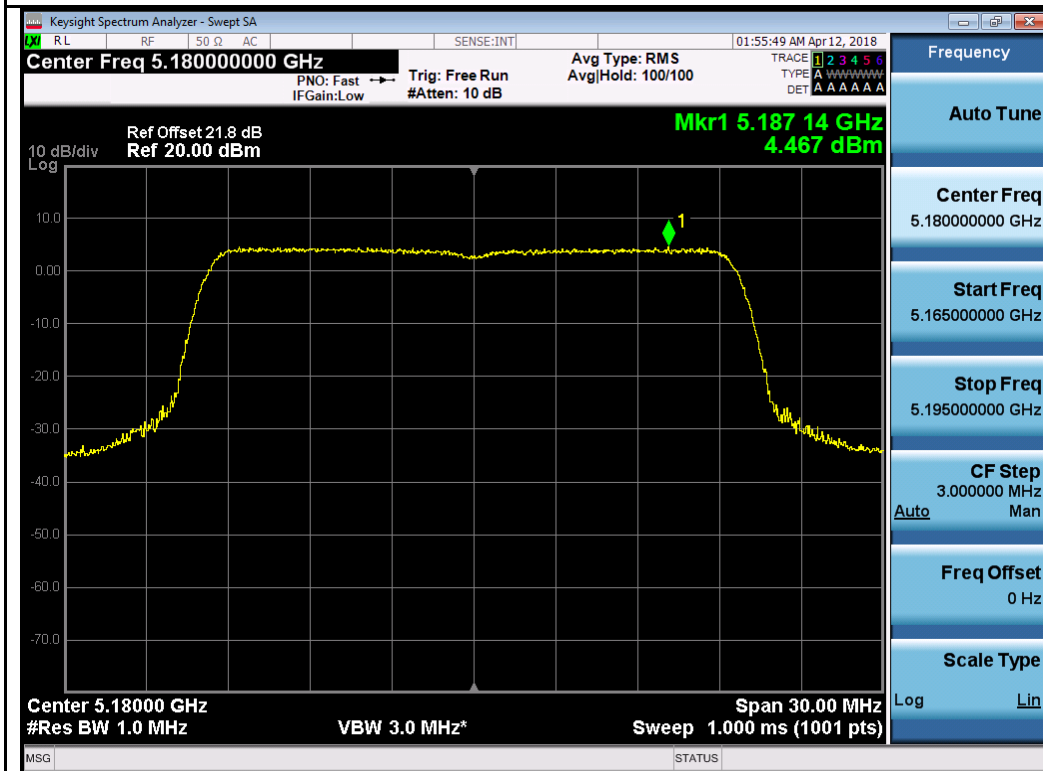
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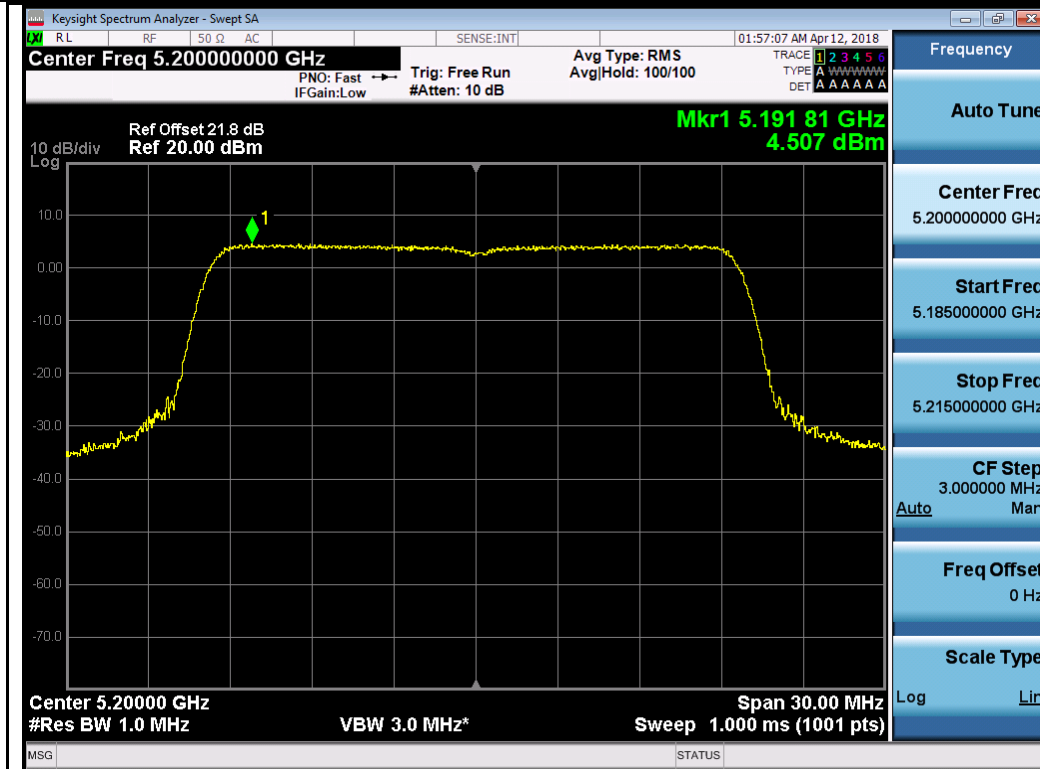
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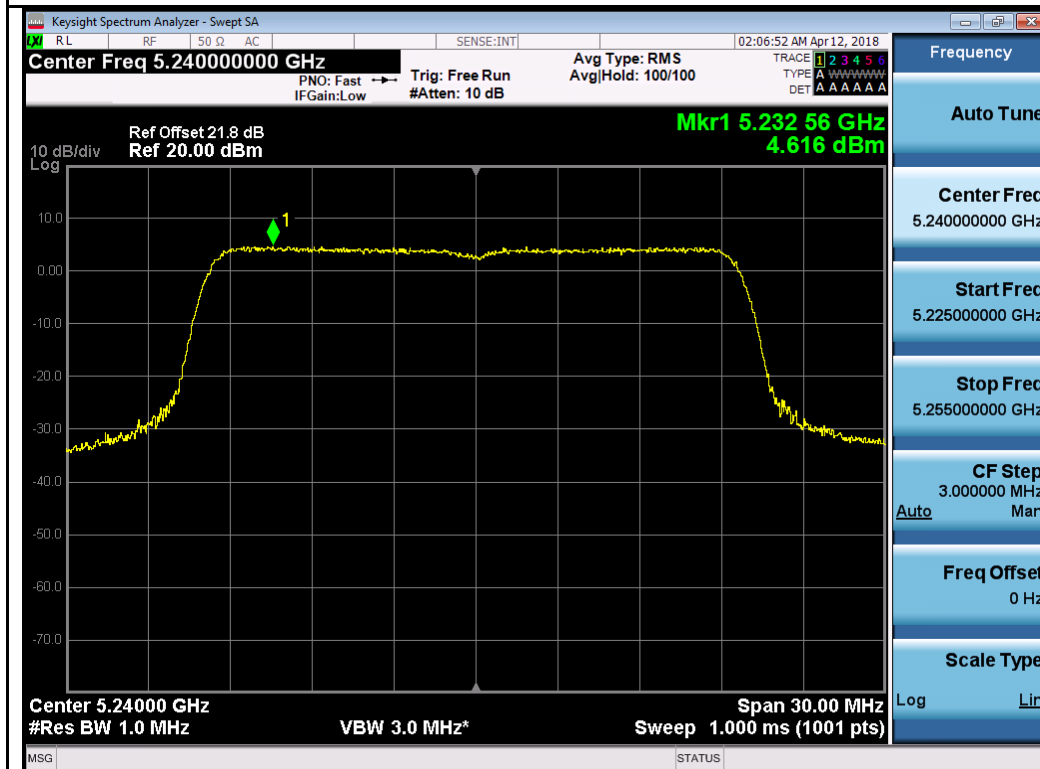
802.11a-5240M



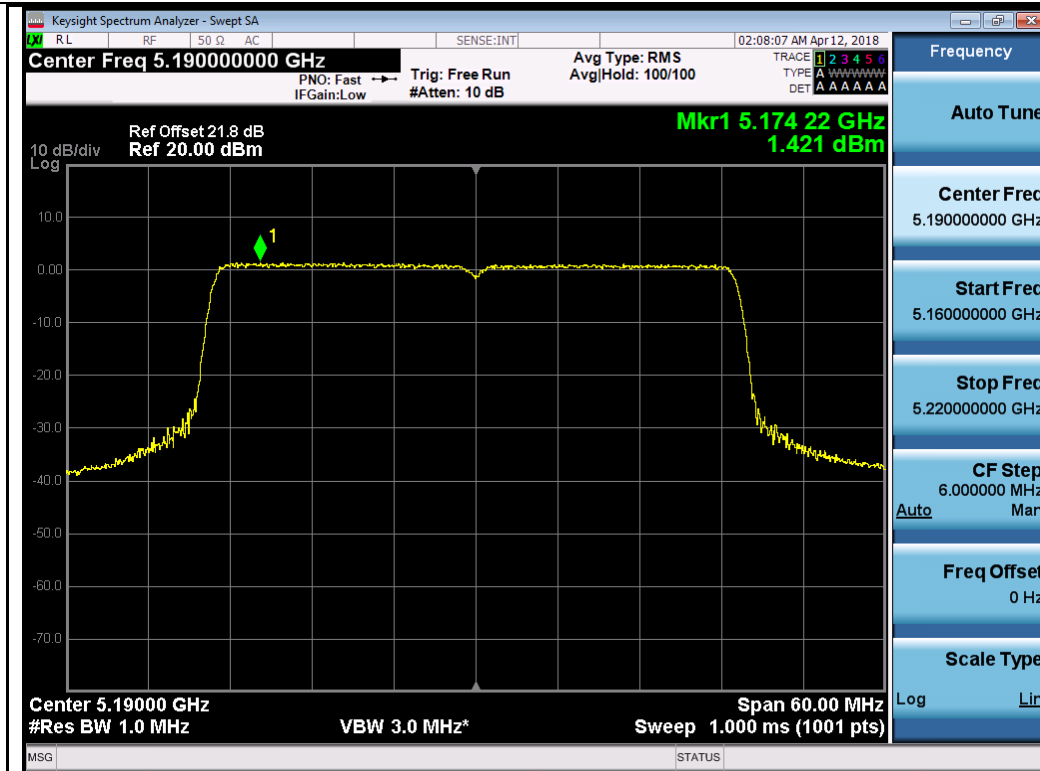
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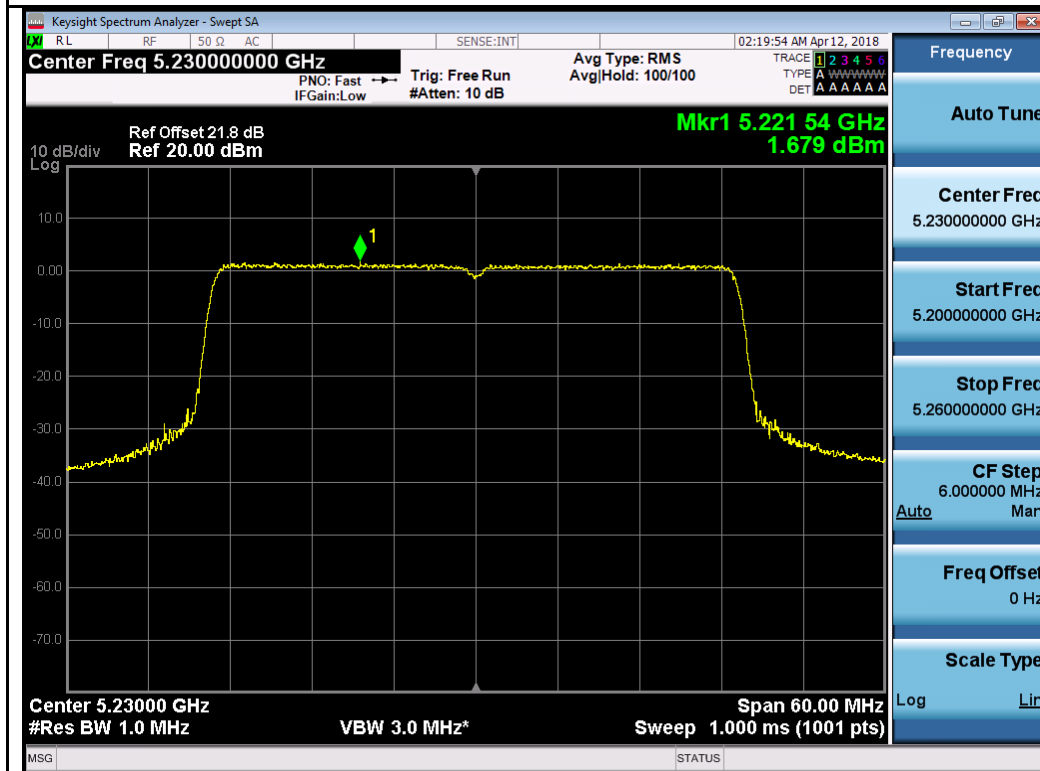
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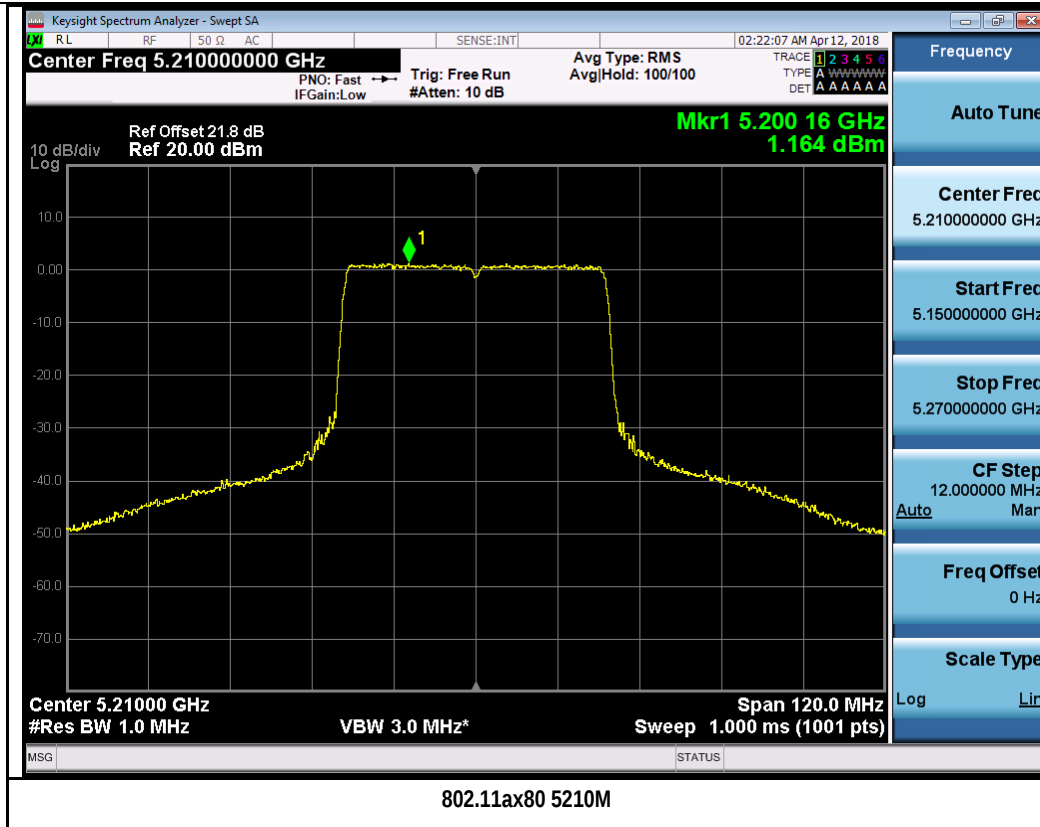
802.11ax20 5240M



802.11ax40 5190M

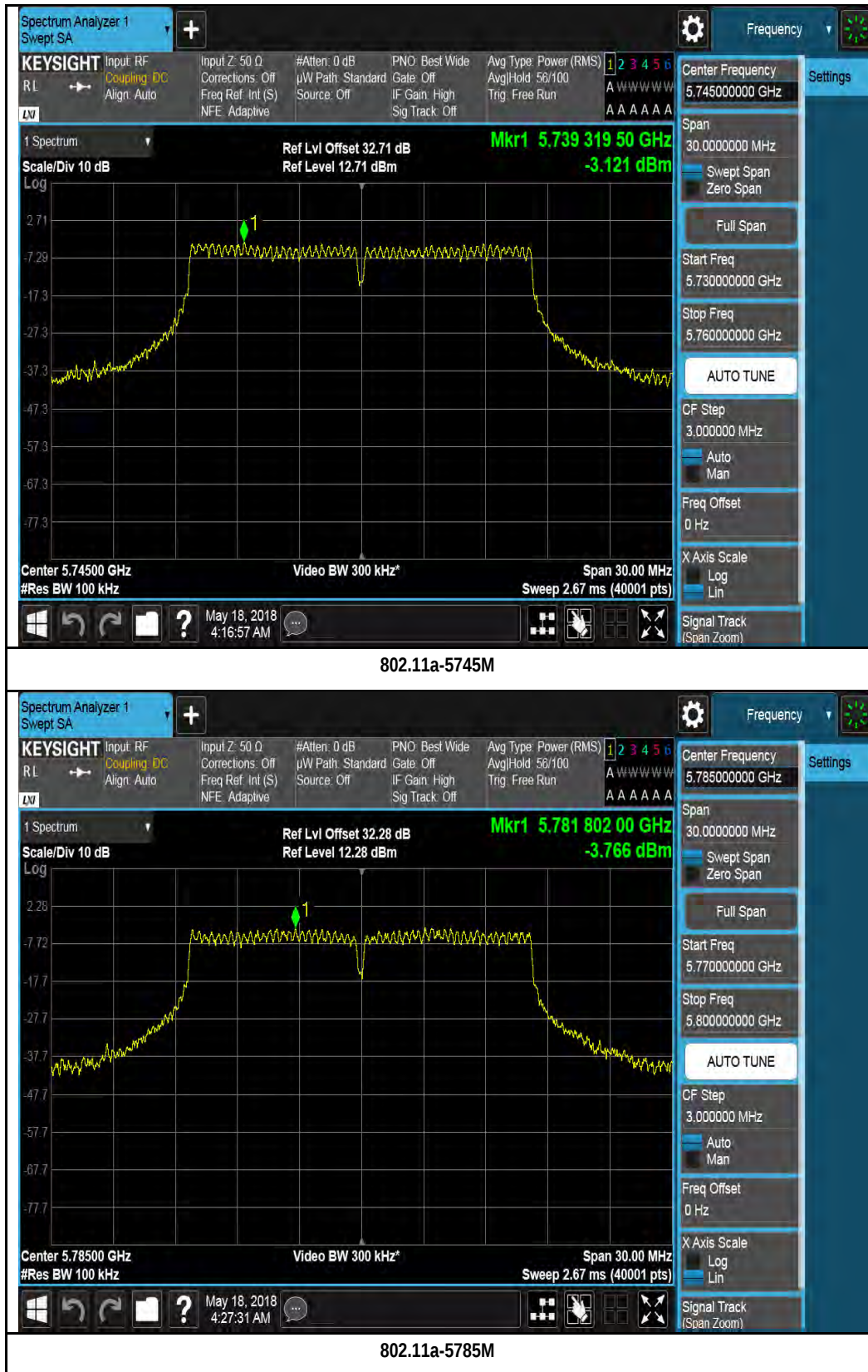


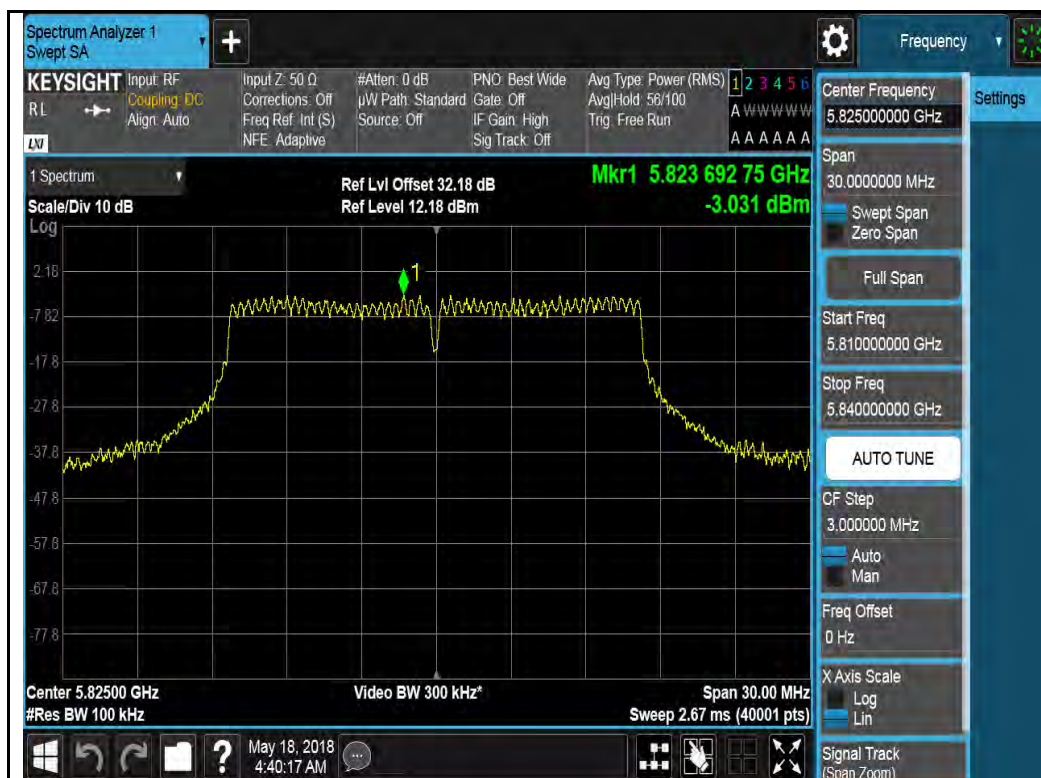
802.11ax40 5230M



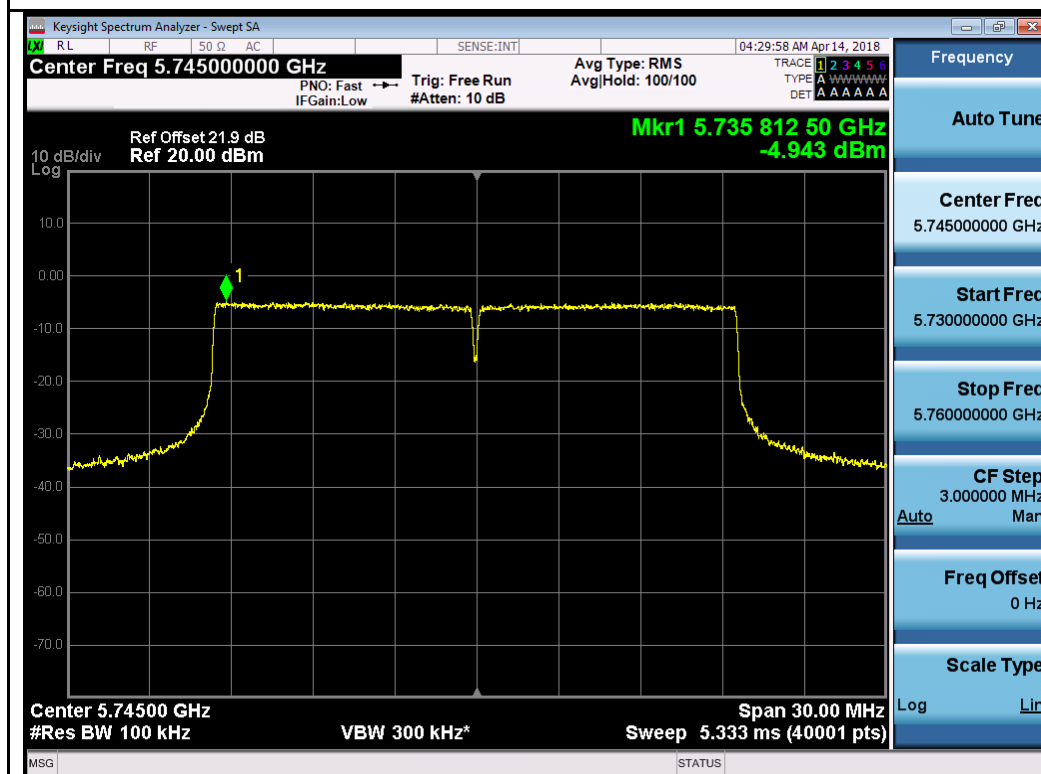
Test Plot for 8x8 mode W58:

Chain 0:

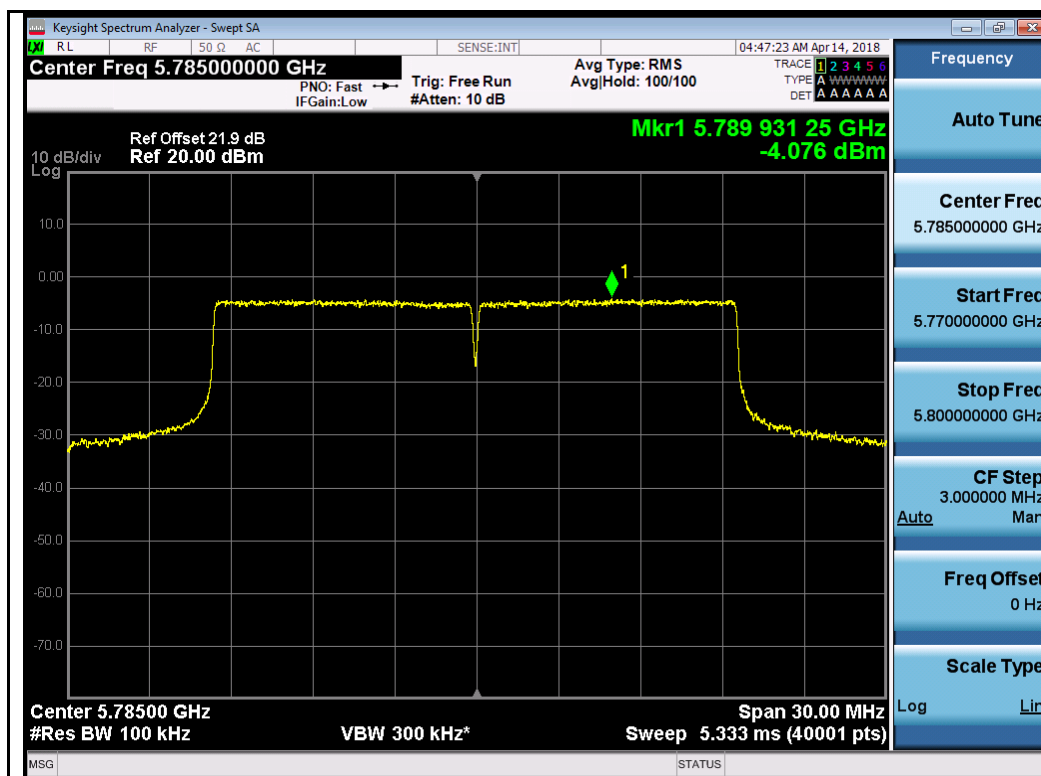




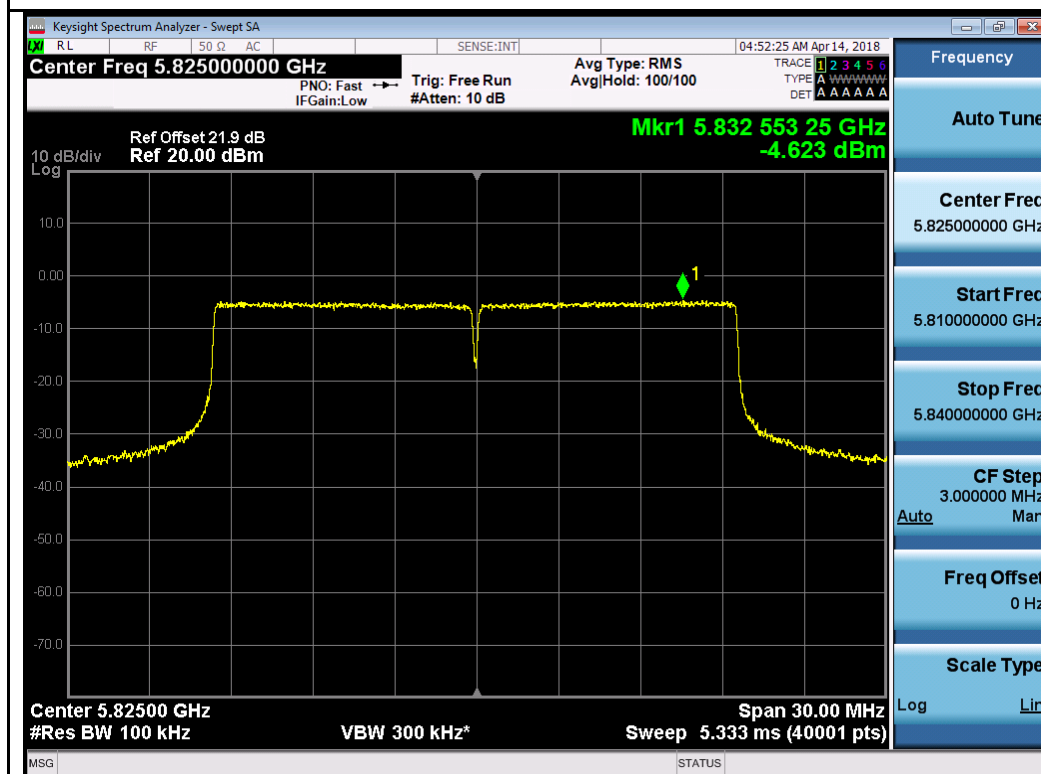
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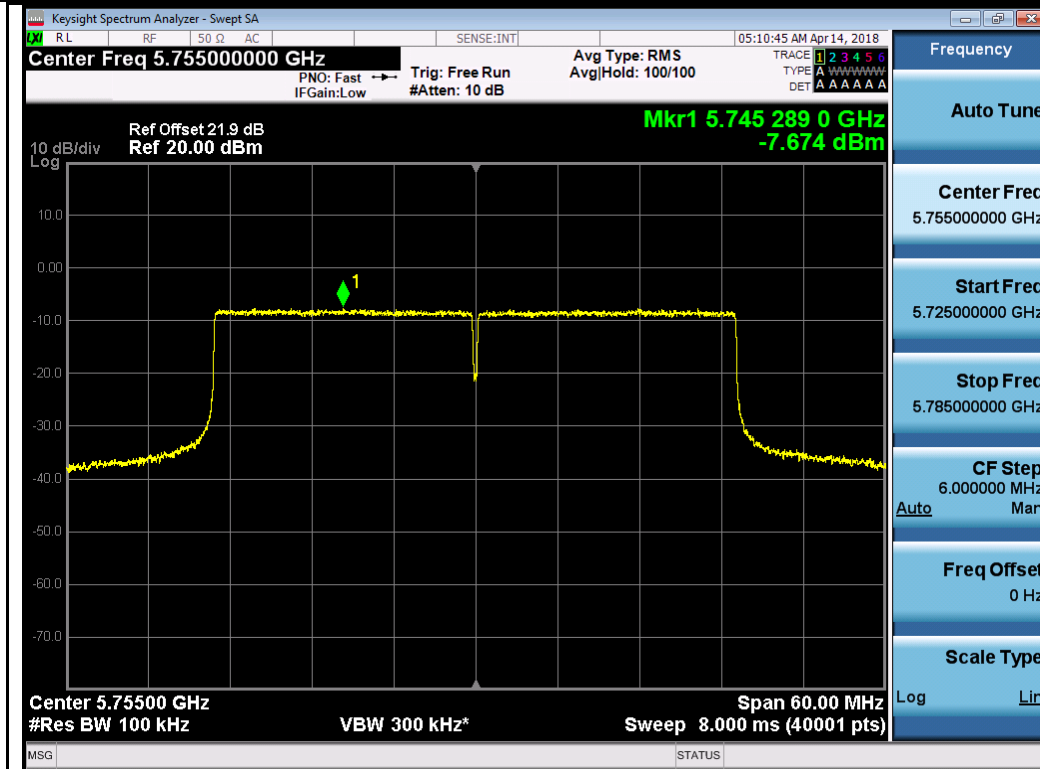
802.11ax20 5745M



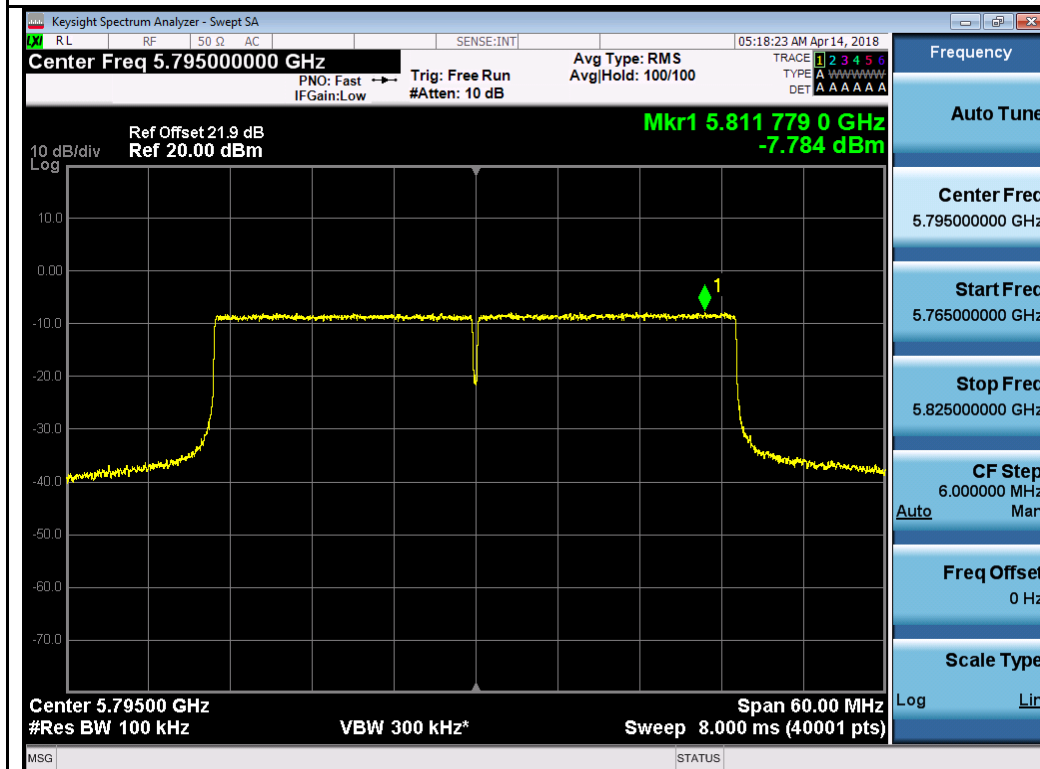
802.11ax20 5785M



802.11ax20 5825M



802.11ax40 5755M



802.11ax40 5795M

