**Audix Technology Corp.**
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# A.3 MAXIMUM POWER SPECTRAL DENSITY

| Test Date | 2022/07/12~13 | Temp./Hum. | 25~26℃/42~50% |
|---|---|---|---|
| Cable Loss | 1.50dB | Tested By | Kuper Hsu |
| Test Voltage | AC 120V 60Hz (Via AC Adapter) | | |

## A.3.1 Power Spectral Density Result

- OFDM Modulation

| Modulation Type | U-NII Band | Centre Frequency (MHz) | Power Spectral Density (dBm/MHz) | | Duty Cycle Factor (dB) 10 log(1/X) | Directional Gain (dBi) Note3 | Total Power Spectral Density (dBm/1MHz) Note 2 | Limit |
|---|---|---|---|---|---|---|---|---|
| | | | AUX | Main | | | | |
| 802.11ax-HE20 | 5 | 5955 | -9.475 | -9.993 | N/A | 2.15 | -4.566 | 1dBm/MHz |
| | | 6175 | -9.543 | -10.212 | N/A | 2.15 | -4.704 | |
| | | 6415 | -9.484 | -10.616 | N/A | 2.05 | -4.953 | |
| | 6 | 6435 | -9.448 | -10.791 | N/A | 2.05 | -5.007 | |
| | | 6475 | -9.557 | -10.409 | N/A | 2.05 | -4.902 | |
| | | 6515 | -9.634 | -10.083 | N/A | 2.05 | -4.792 | |
| | 7 | 6535 | -11.940 | -12.866 | N/A | 2.05 | -7.318 | |
| | | 6695 | -12.814 | -13.152 | N/A | 2.05 | -7.919 | |
| | | 6855 | -12.364 | -13.240 | N/A | 2.00 | -7.770 | |
| | 8 | 6875 | -12.536 | -13.130 | N/A | 2.00 | -7.813 | |
| | | 6995 | -11.542 | -12.032 | N/A | 2.00 | -6.770 | |
| | | 7115 | -15.087 | -15.010 | N/A | 2.00 | -10.038 | |
| 802.11ax-HE40 | 5 | 5965 | -8.663 | -9.520 | N/A | 2.15 | -3.910 | |
| | | 6165 | -9.511 | -9.992 | N/A | 2.15 | -4.585 | |
| | | 6405 | -9.103 | -10.051 | N/A | 2.05 | -4.491 | |
| | 6 | 6445 | -9.372 | -10.431 | N/A | 2.05 | -4.809 | |
| | | 6485 | -9.557 | -10.207 | N/A | 2.05 | -4.810 | |
| | 7 | 6525 | -9.646 | -9.992 | N/A | 2.05 | -4.755 | |
| | | 6685 | -10.191 | -10.506 | N/A | 2.05 | -5.285 | |
| | | 6845 | -10.161 | -11.030 | N/A | 2.00 | -5.564 | |
| | 8 | 6885 | -10.318 | -10.814 | N/A | 2.00 | -5.549 | |
| | | 7005 | -10.068 | -10.352 | N/A | 2.00 | -5.197 | |
| | | 7085 | -9.734 | -10.399 | N/A | 2.00 | -5.043 | |
| 802.11ax-HE80 | 5 | 5985 | -9.295 | -9.812 | N/A | 2.15 | -4.386 | |
| | | 6145 | -9.237 | -9.777 | N/A | 2.15 | -4.338 | |
| | | 6385 | -9.257 | -10.315 | N/A | 2.05 | -4.694 | |
| | 6 | 6465 | -9.271 | -10.208 | N/A | 2.05 | -4.654 | |
| | | 6545 | -9.078 | -9.980 | N/A | 2.05 | -4.445 | |
| | 7 | 6625 | -9.839 | -11.183 | N/A | 2.05 | -5.399 | |
| | | 6705 | -9.901 | -10.350 | N/A | 2.05 | -5.059 | |
| | | 6785 | -10.051 | -10.629 | N/A | 2.05 | -5.270 | |
| | 8 | 6865 | -10.019 | -10.939 | N/A | 2.00 | -5.444 | |
| | | 6945 | -10.020 | -10.900 | N/A | 2.00 | -5.427 | |
| | | 7025 | -10.347 | -10.652 | N/A | 2.00 | -5.487 | |
| 802.11ax-HE160 | 5 | 6025 | -9.482 | -9.192 | N/A | 2.15 | -4.174 | |
| | | 6185 | -8.983 | -8.957 | N/A | 2.15 | -3.810 | |
| | | 6345 | -9.053 | -9.088 | N/A | 2.05 | -4.010 | |
| | 6 | 6505 | -9.008 | -9.035 | N/A | 2.05 | -3.961 | |
| | 7 | 6665 | -9.621 | -10.040 | N/A | 2.05 | -4.765 | |
| | | 6825 | -10.005 | -10.332 | N/A | 2.00 | -5.155 | |
| | 8 | 6985 | -9.876 | -9.809 | N/A | 2.00 | -4.832 | |

Note: 1. All results have been included cable.
2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.
3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = 10 log[($10^{G1/10}$ + $10^{G2/10}$ + … + $10^{GN/10}$)/$N_{ANT}$] dBi
Directional gain:
5925MHz: 10 log[($10^{2.0/10}$ +$10^{2.3/10}$)/2]= 2.15dBi
6525MHz: 10 log[($10^{1.9/10}$ +$10^{2.2/10}$)/2]= 2.05dBi
7125MHz: 10 log[($10^{1.9/10}$ +$10^{2.1/10}$)/2]= 2.00dBi
The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).



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- OFDMA Modulation

| Tones | RU Index | Modulation Type | U-NII Band | Centre Frequency (MHz) | Power Spectral Density (dBm/MHz) | | Duty Cycle Factor (dB) 10log(1/X) | Directional Gain (dBi) Note3 | Total Power Spectral Density (dBm/1MHz) Note 2 | Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AUX | Main | | | | |
| 26T | 18 | 802.11ax-HE80 | 5 | 5985 | -9.583 | -10.253 | 0.141 | 2.15 | -4.604 | 1dBm/MHz |
| 52T | 44 | 802.11ax-HE80 | 5 | 5985 | -7.882 | -8.694 | 0.141 | 2.15 | -2.968 | |
| 106T | 54 | 802.11ax-HE20 | 5 | 5955 | -7.875 | -8.608 | 0.141 | 2.15 | -2.925 | |
| 242T | 62 | 802.11ax-HE160 | 5 | 6185 | -8.585 | -9.536 | 0.141 | 2.15 | -3.733 | |
| 484T | 66 | 802.11ax-HE160 | 5 | 6025 | -8.847 | -9.598 | 0.150 | 2.15 | -3.896 | |
| 996T | 67 | 802.11ax-HE80 | 5 | 5985 | -8.626 | -8.971 | 0.141 | 2.15 | -3.494 | |

Note: 1. All results have been included cable.
2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.
3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N_{ANT}]$ dBi
Directional gain:
5925MHz: $10 \log[(10^{2.0/10} + 10^{2.3/10})/2] = 2.15$dBi
6525MHz: $10 \log[(10^{1.9/10} + 10^{2.2/10})/2] = 2.05$dBi
7125MHz: $10 \log[(10^{1.9/10} + 10^{2.1/10})/2] = 2.00$dBi
The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).



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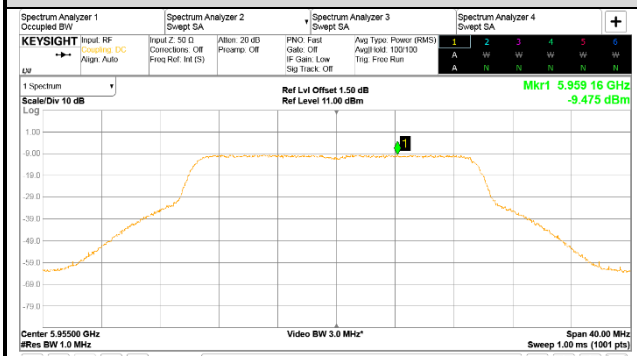
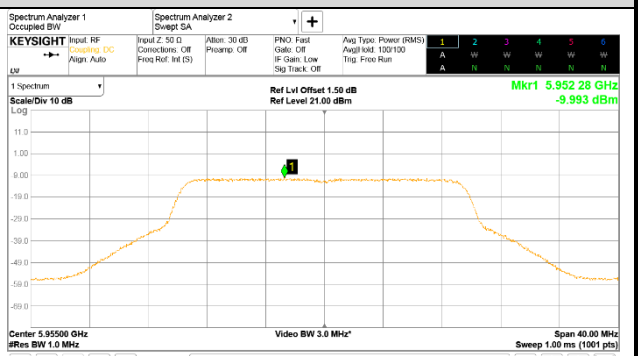
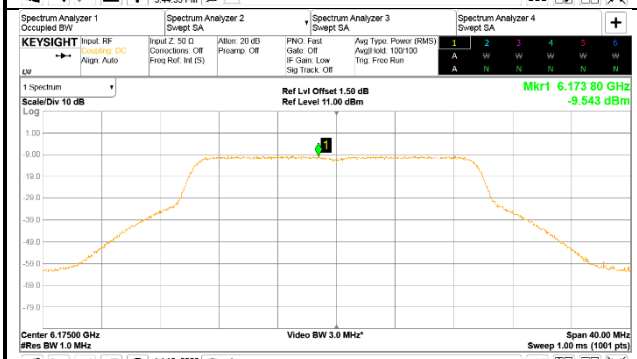
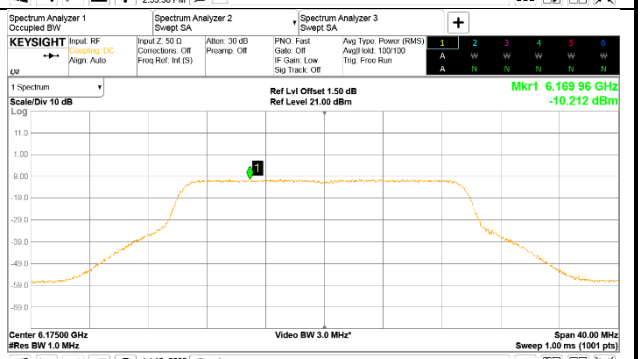
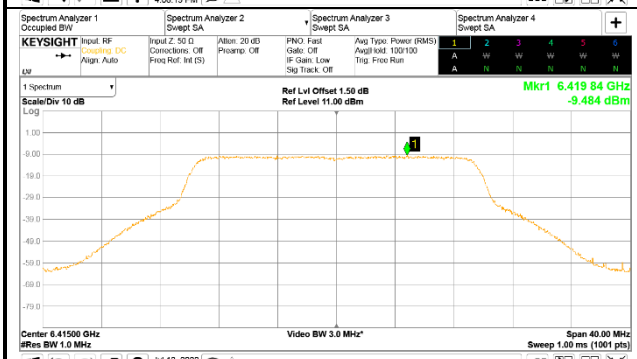
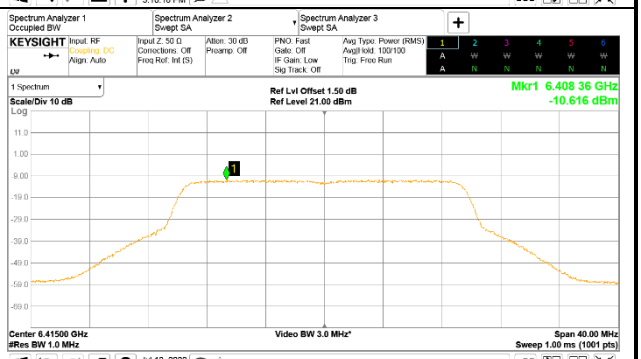
## A.3.2 Measurement Plots

- OFDM Modulation

| Mode: 802.11ax-HE20 | |
|---|---|
| AUX | Main |
| U-NII Band 5 | U-NII Band 5 |
|  |  |
|  |  |
|  |  |





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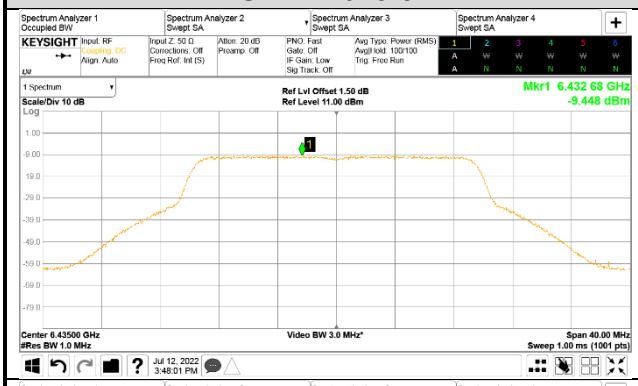
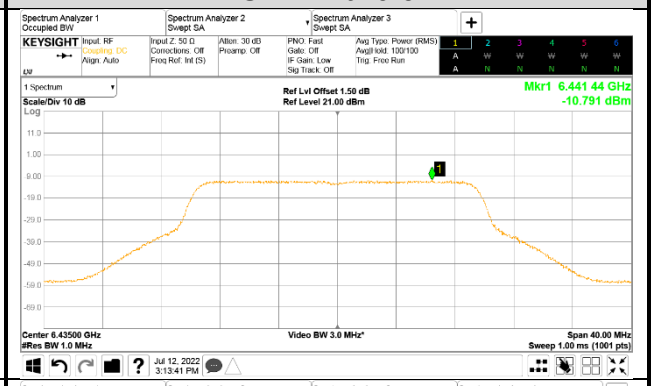
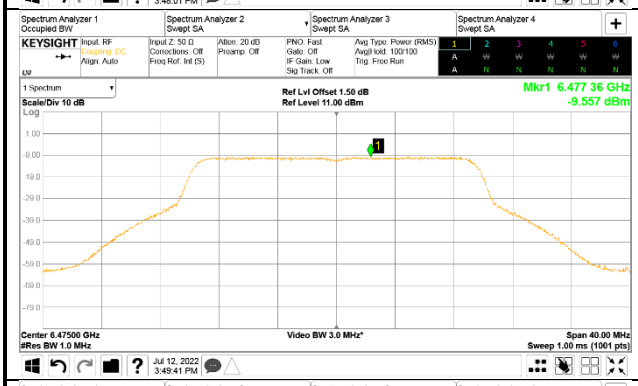
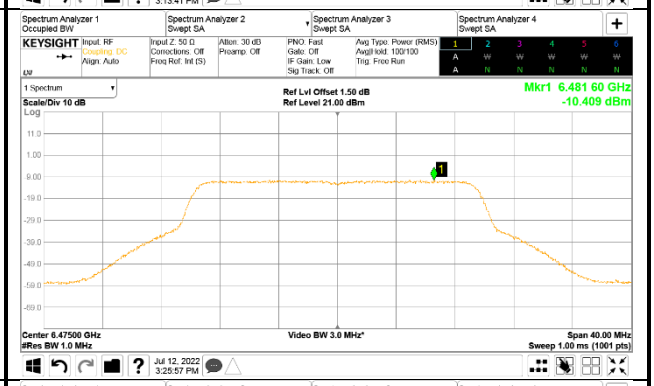
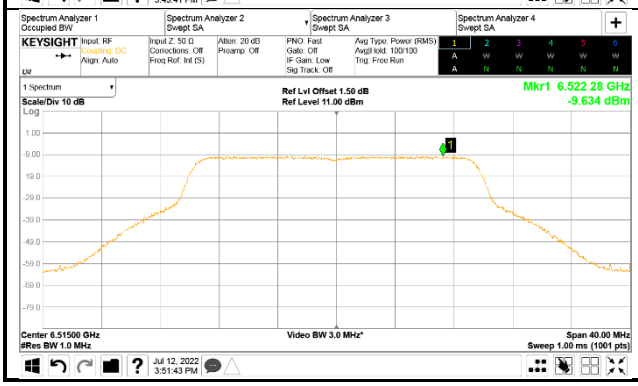
| Mode: 802.11ax-HE20 | |
|---|---|
| AUX | Main |
| U-NII Band 6 | U-NII Band 6 |

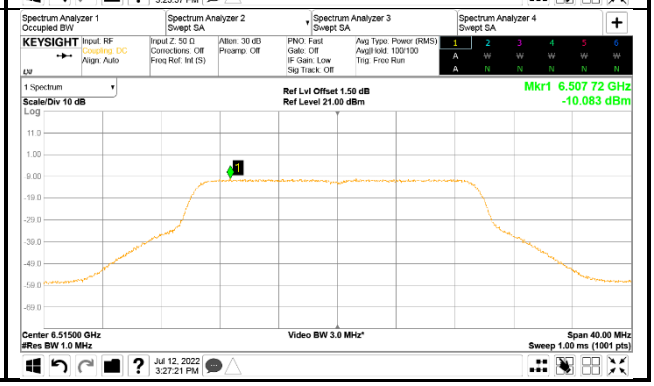


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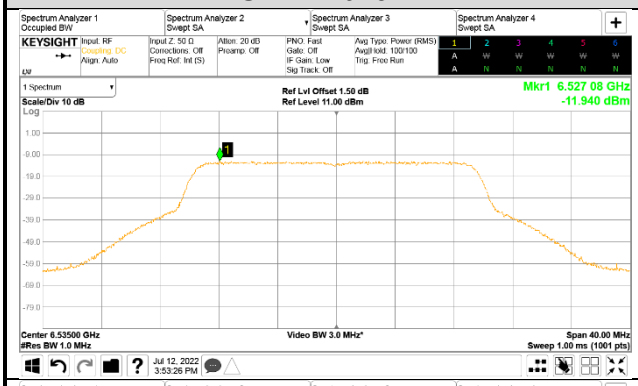
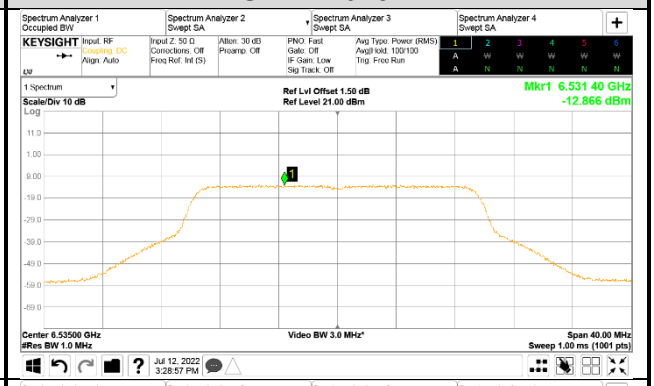
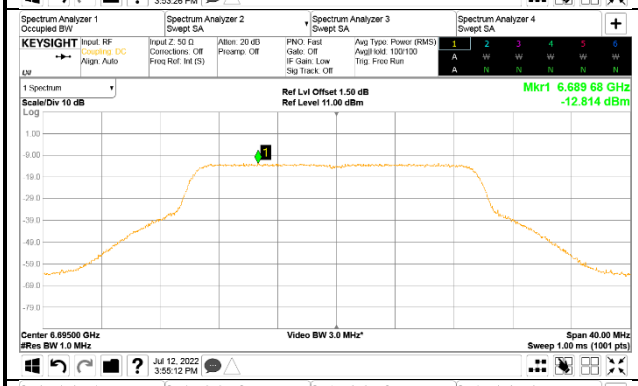
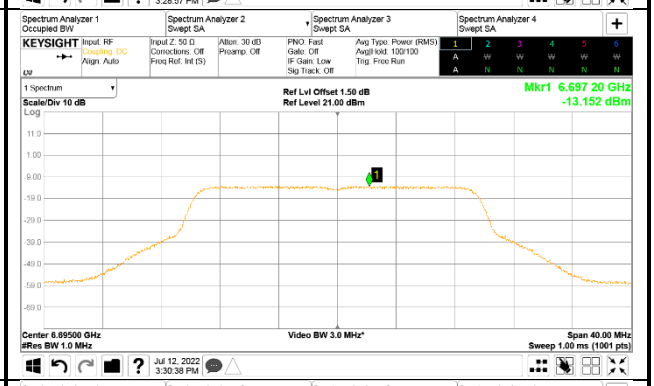
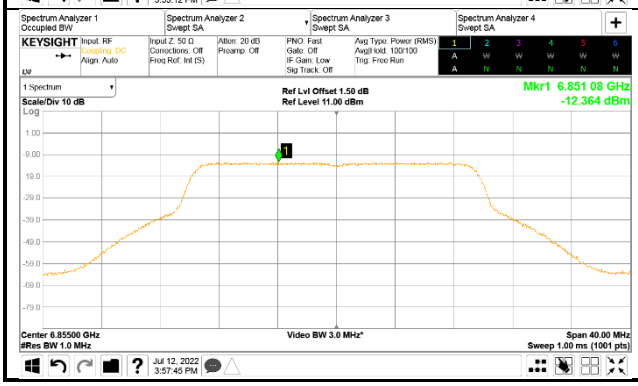
| Mode: 802.11ax-HE20 | |
|---|---|
| AUX | Main |
| U-NII Band 7 | U-NII Band 7 |

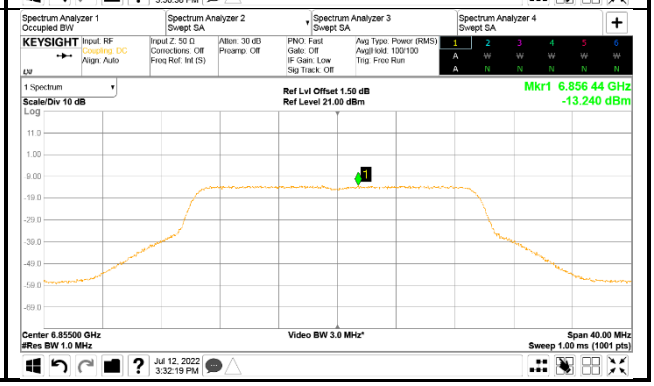


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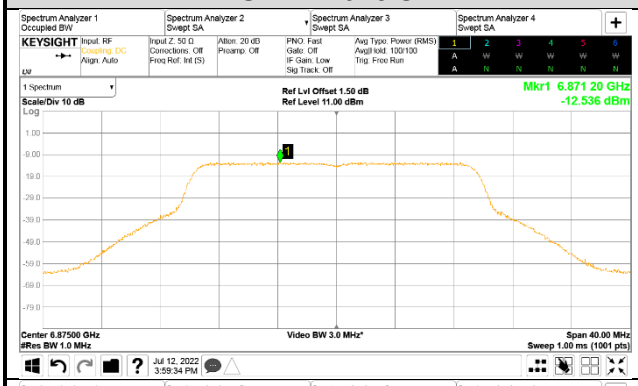
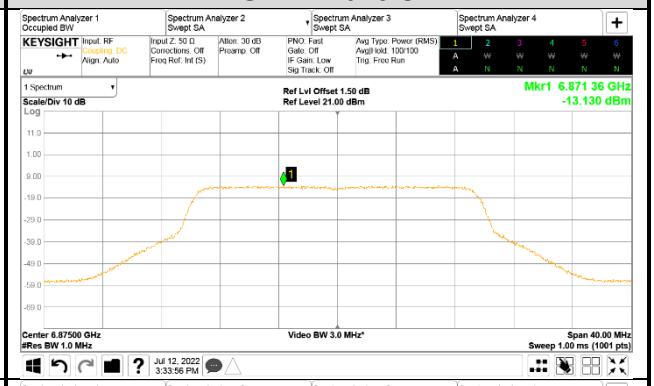
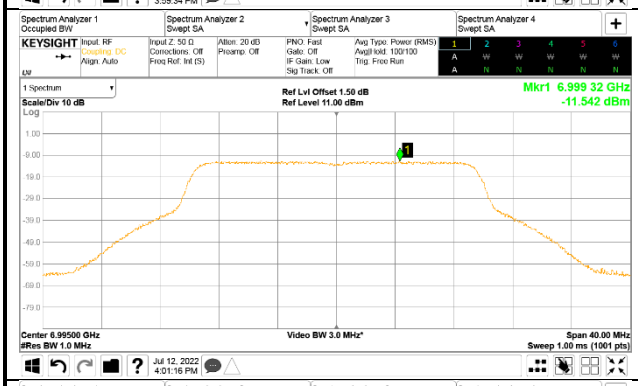
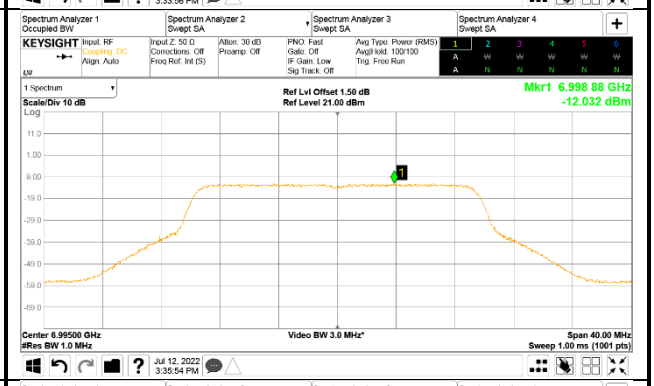
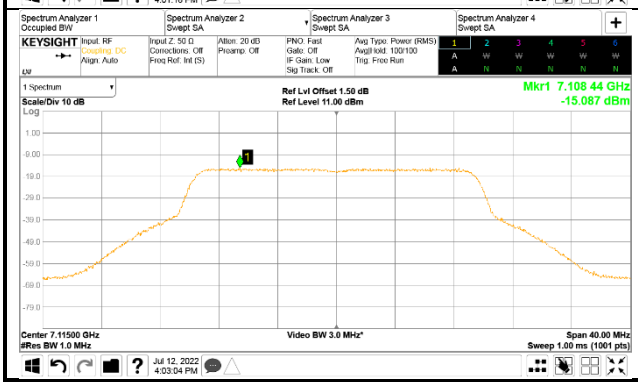
| Mode: 802.11ax-HE20 | |
|---|---|
| AUX | Main |
| U-NII Band 8 | U-NII Band 8 |

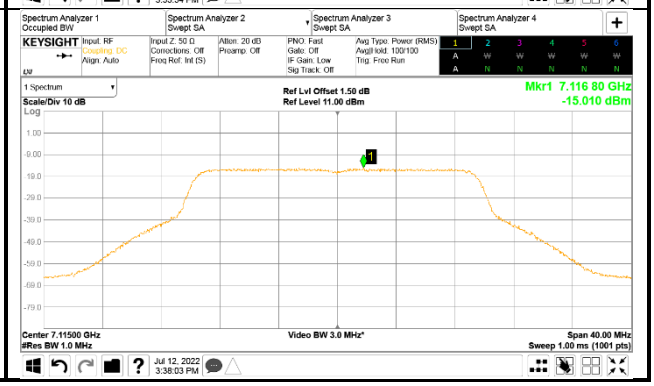


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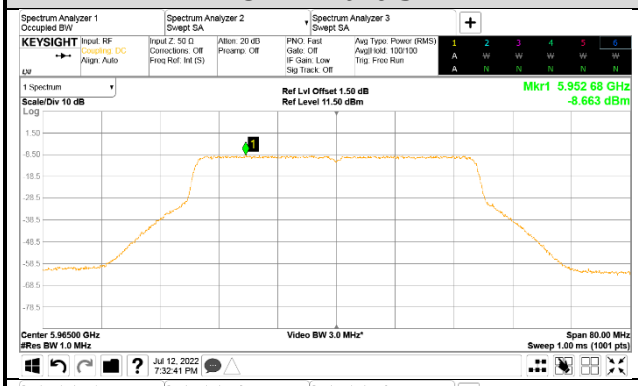
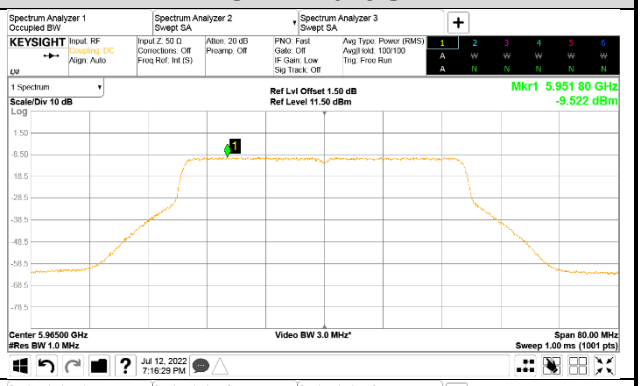
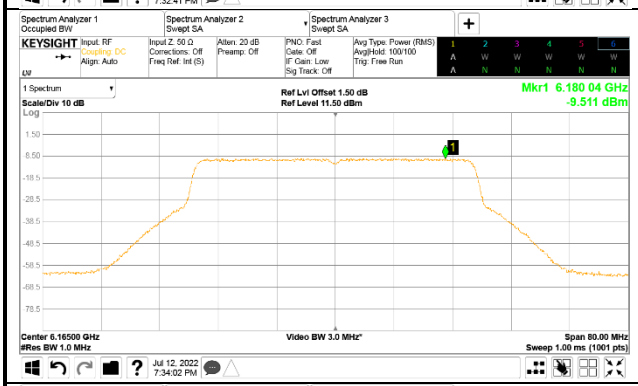
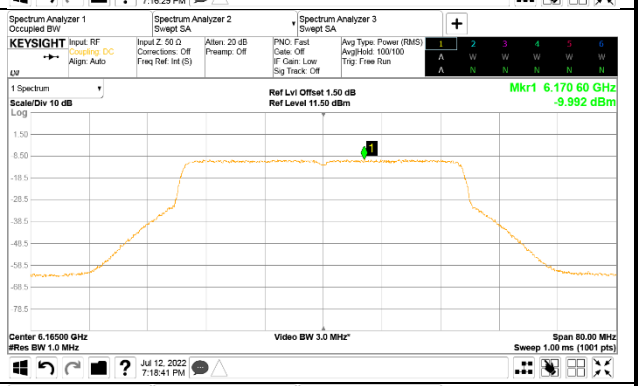
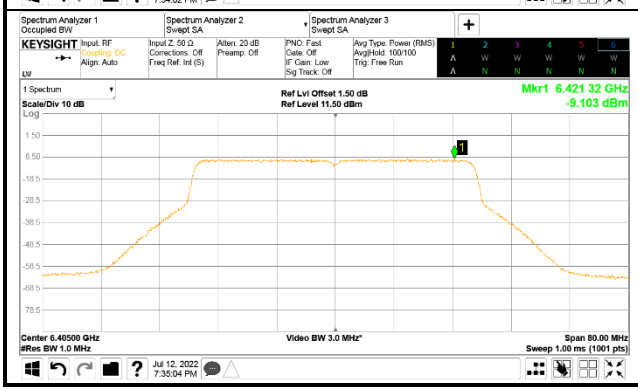
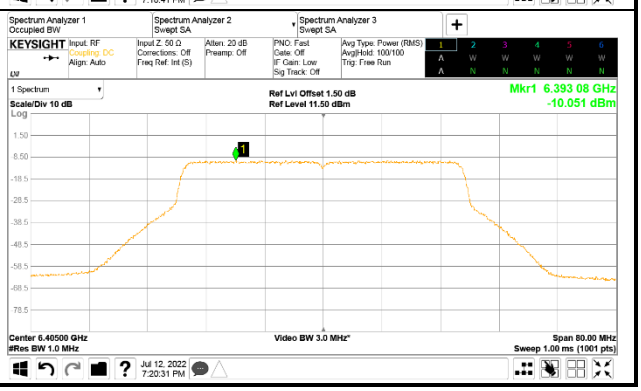
| Mode: 802.11ax-HE40 | |
|---|---|
| AUX | Main |
| U-NII Band 5 | U-NII Band 5 |
|  |  |
|  |  |
|  |  |





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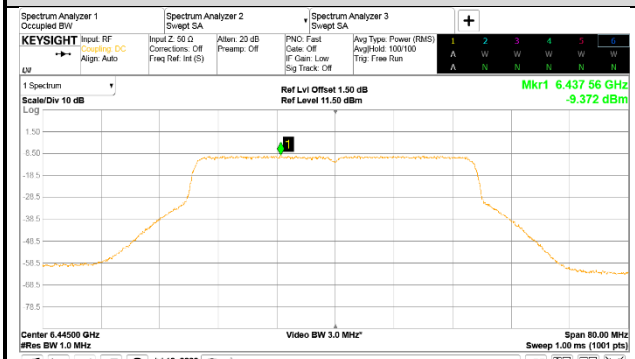
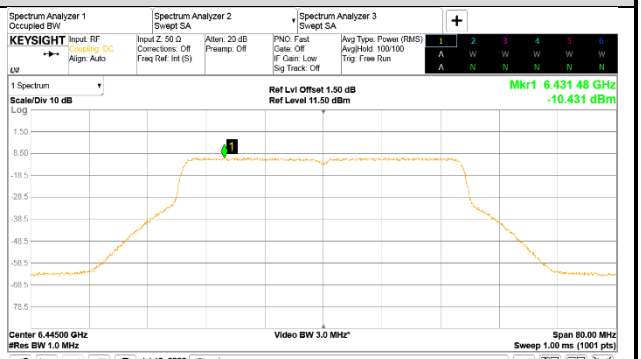
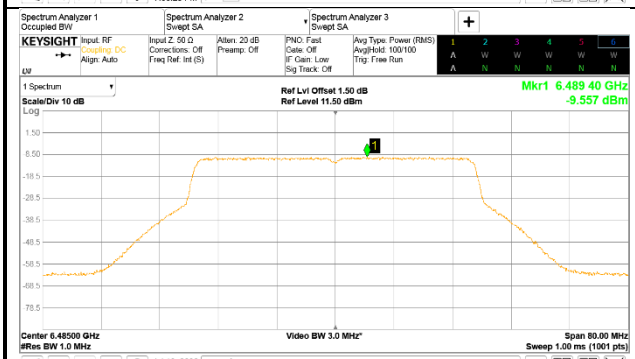
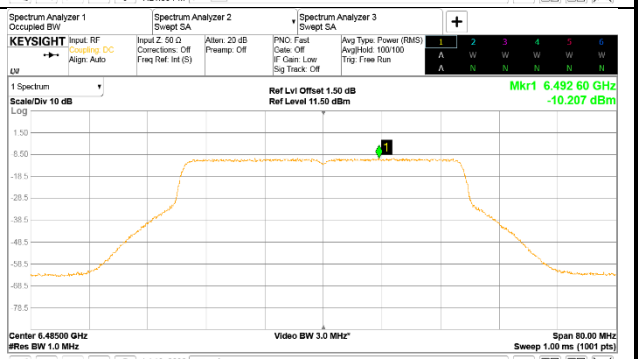
| Mode: 802.11ax-HE40 | |
|---|---|
| AUX | Main |
| U-NII Band 6 | U-NII Band 6 |
|  |  |
|  |  |





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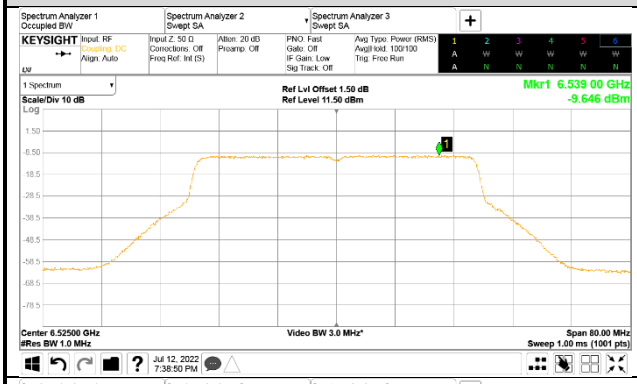
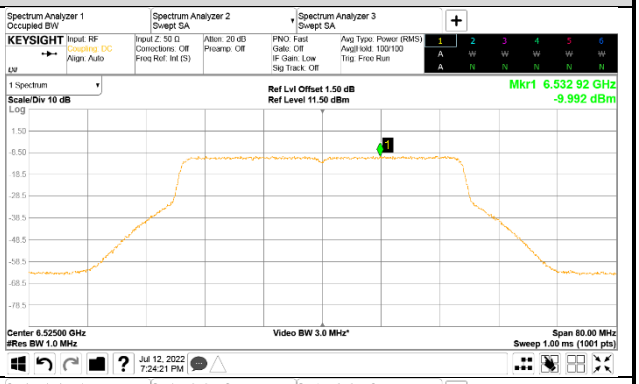
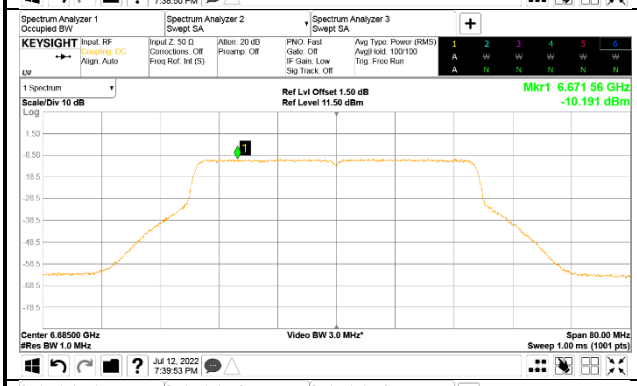
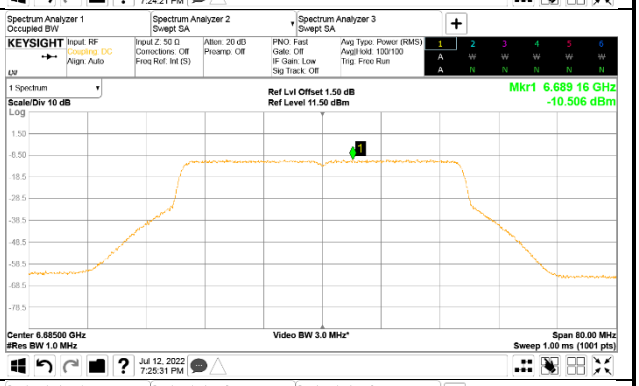
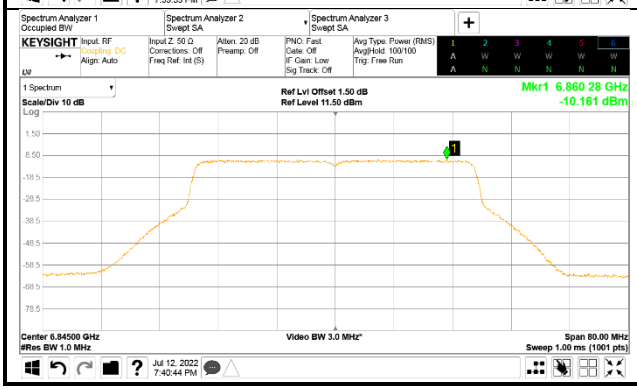
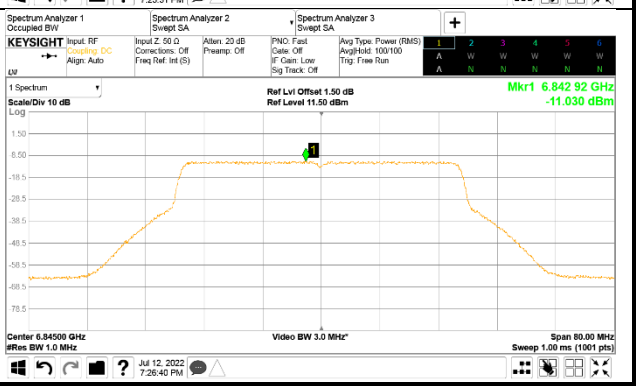
| Mode: 802.11ax-HE40 | |
|---|---|
| AUX | Main |
| U-NII Band 7 | U-NII Band 7 |
|  |  |
|  |  |
|  |  |



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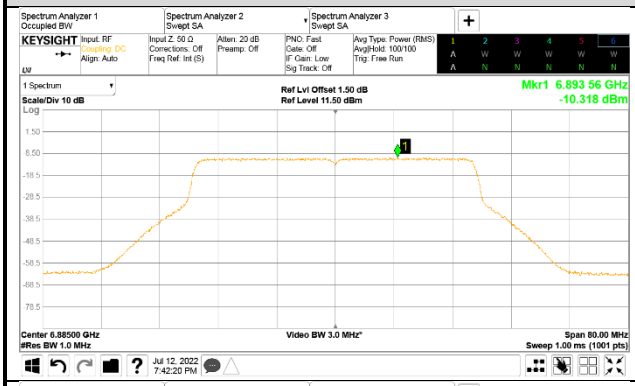
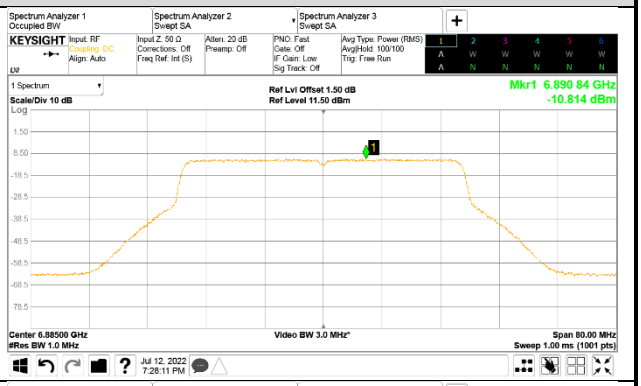
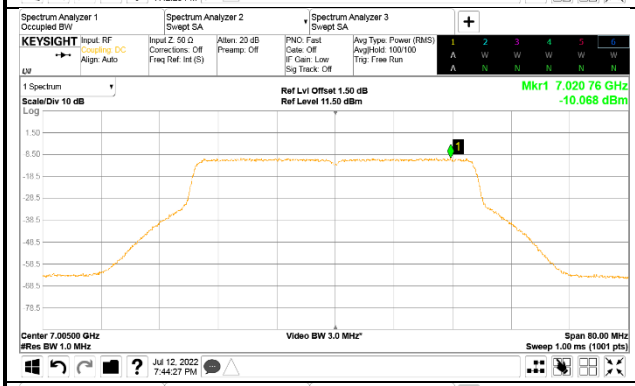
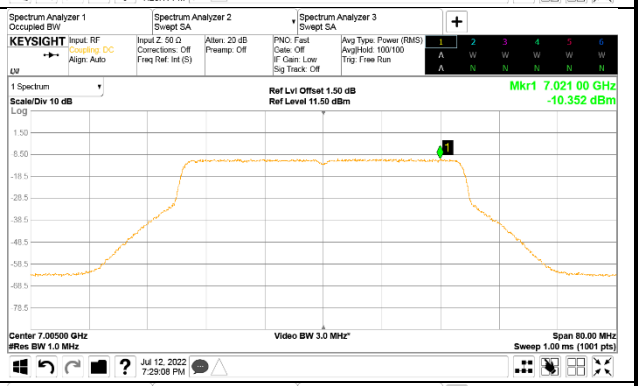
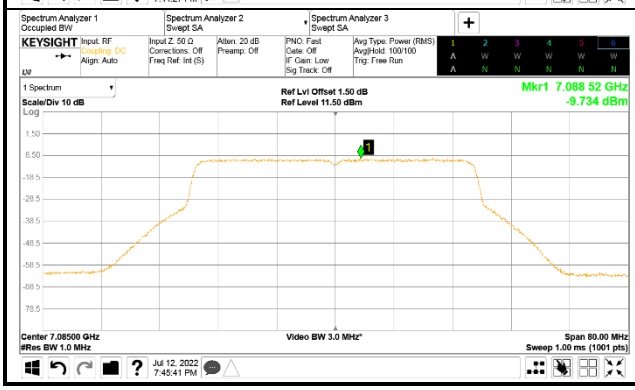
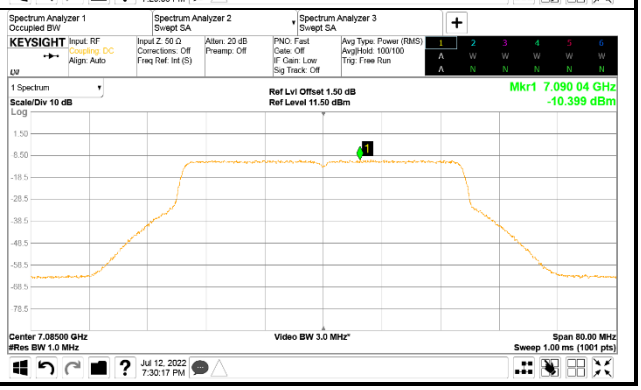
**Fax: +886 2 26099303**

| Mode: 802.11ax-HE40 | |
|---|---|
| AUX | Main |
| U-NII Band 8 | U-NII Band 8 |
|  |  |
|  |  |
|  |  |





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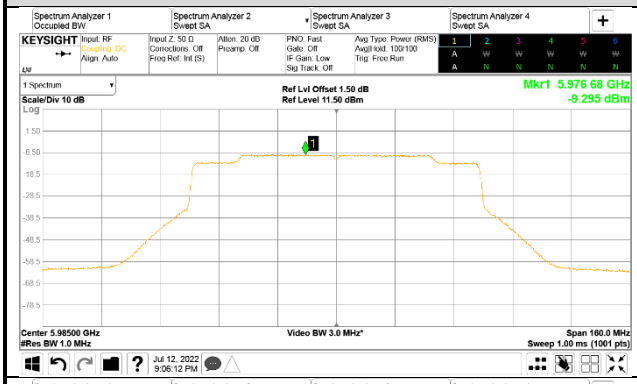
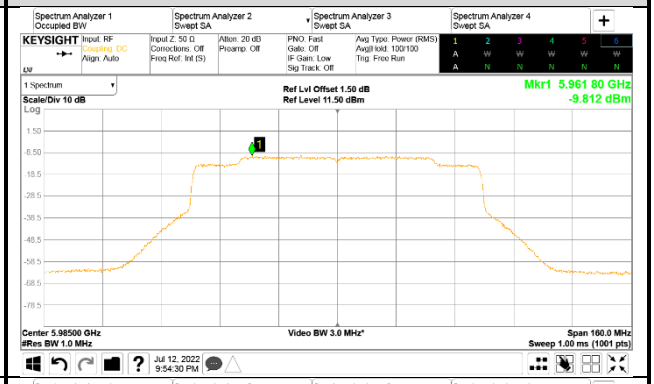
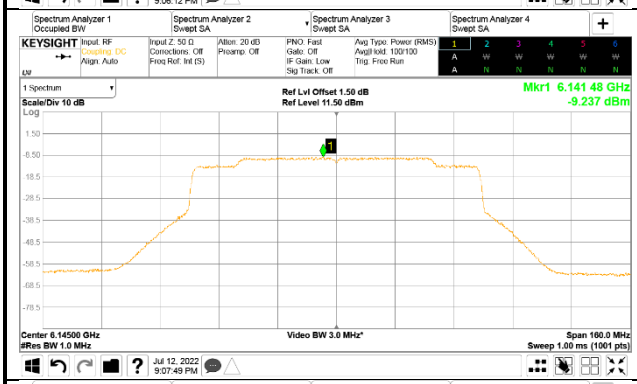
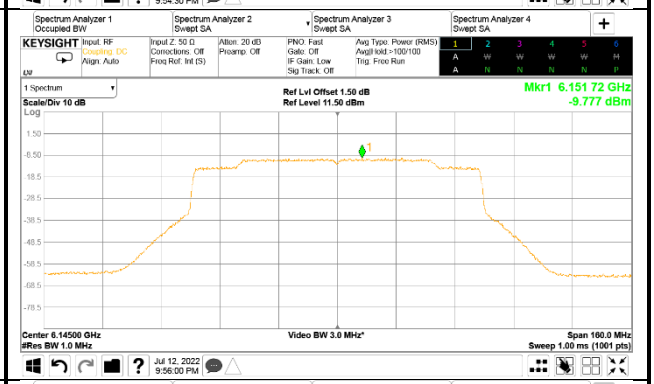
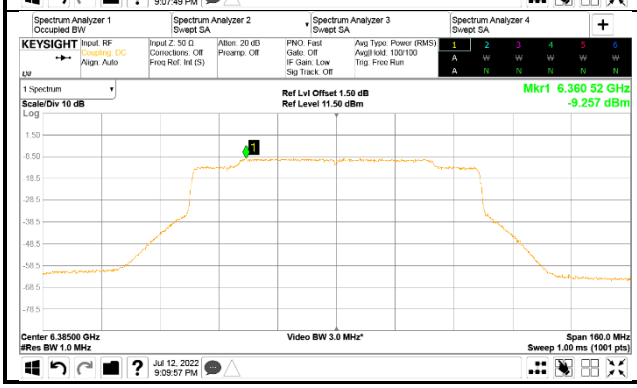
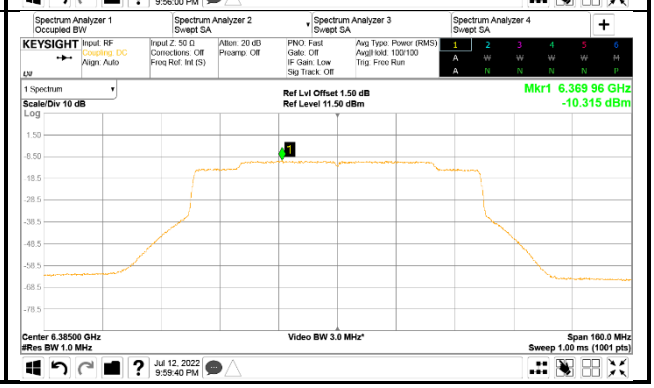
| Mode: 802.11ax-HE80 | |
|---|---|
| AUX | Main |
| U-NII Band 5 | U-NII Band 5 |
|  |  |
|  |  |
|  |  |



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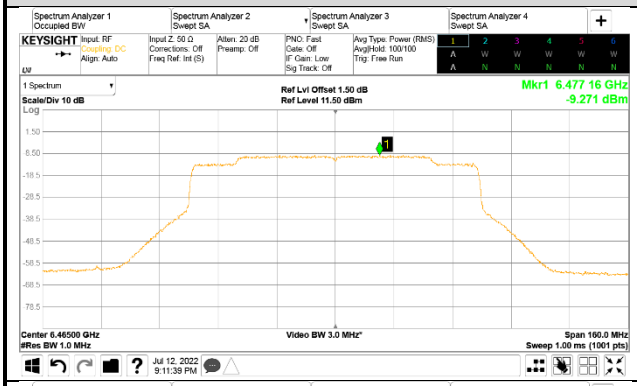
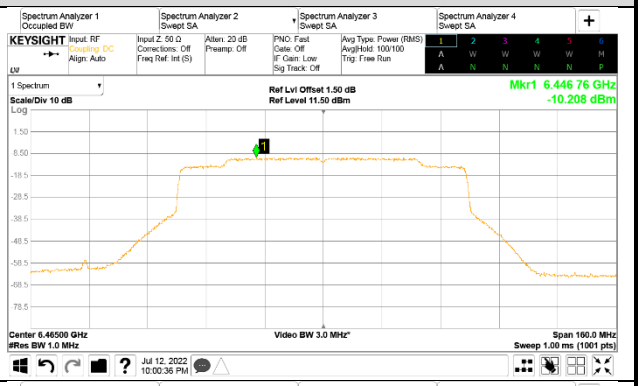
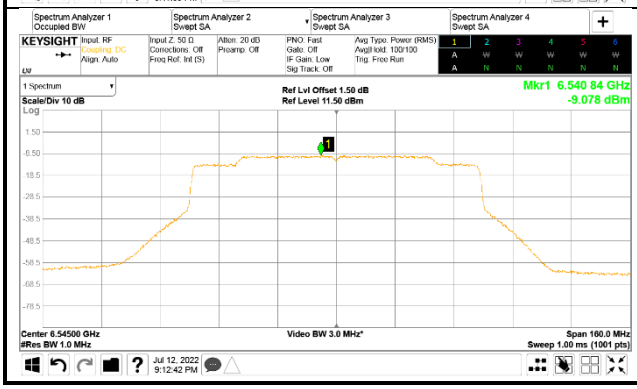
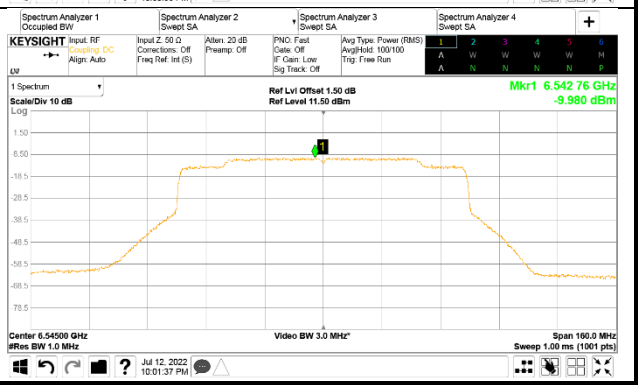
| Mode: 802.11ax-HE80 | |
|---|---|
| AUX | Main |
| U-NII Band 6 | U-NII Band 6 |
|  |  |
|  |  |





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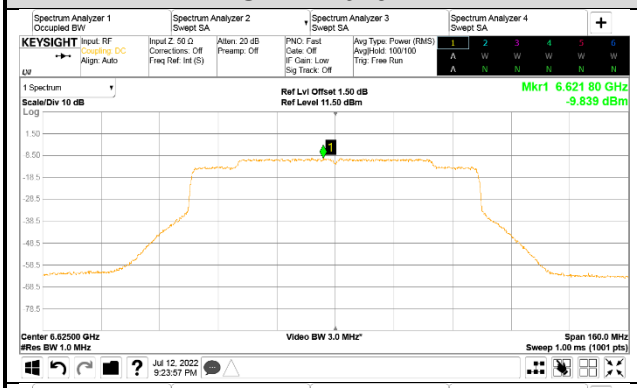
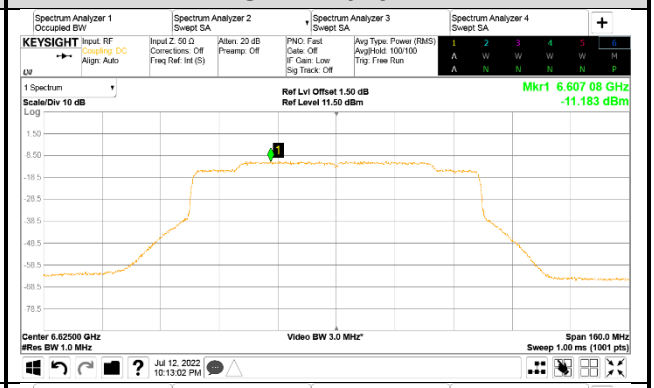
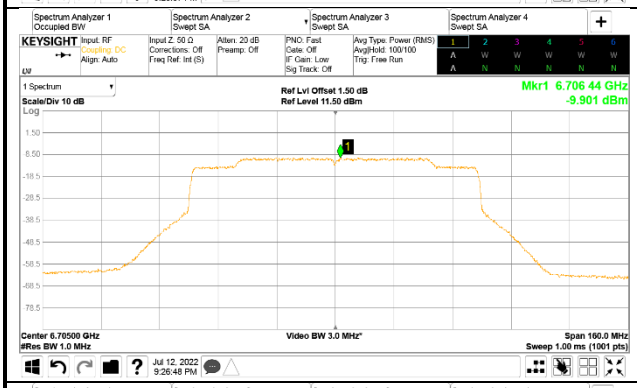
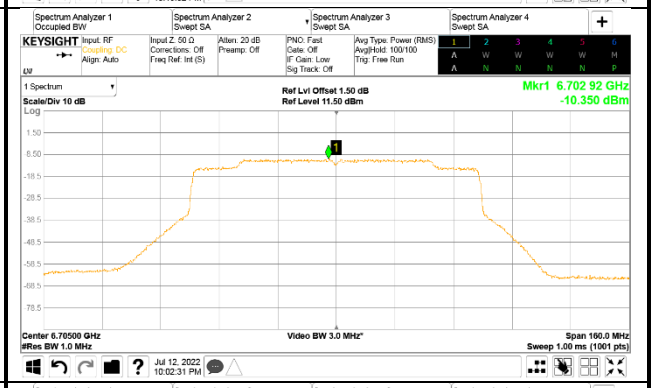
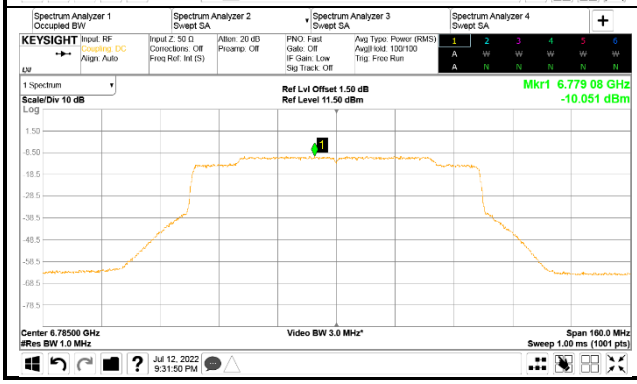
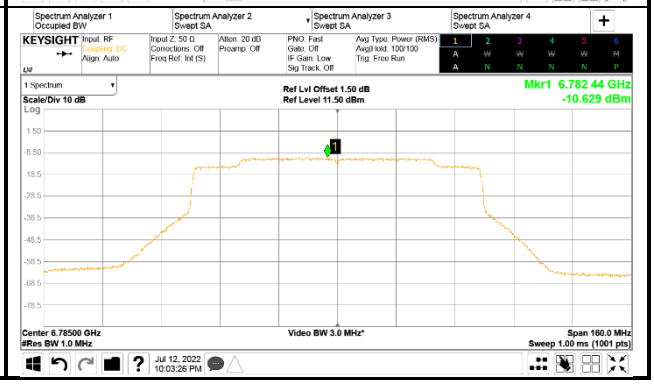
**Fax: +886 2 26099303**

| Mode: 802.11ax-HE80 | |
|---|---|
| AUX | Main |
| U-NII Band 7 | U-NII Band 7 |
|  |  |
|  |  |
|  |  |





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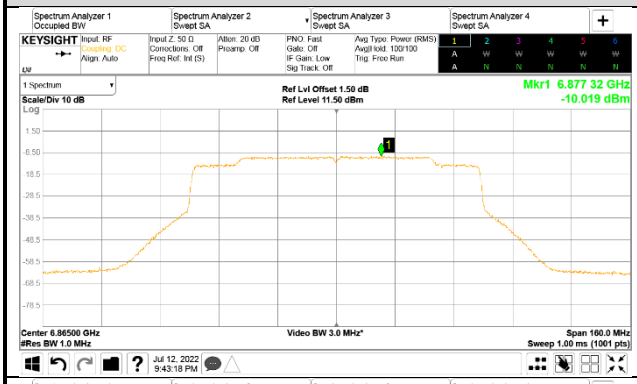
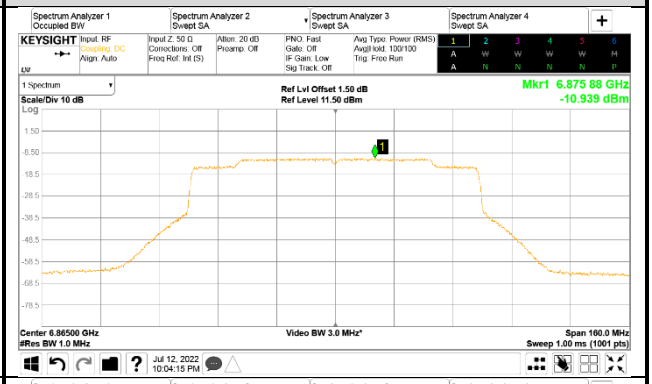
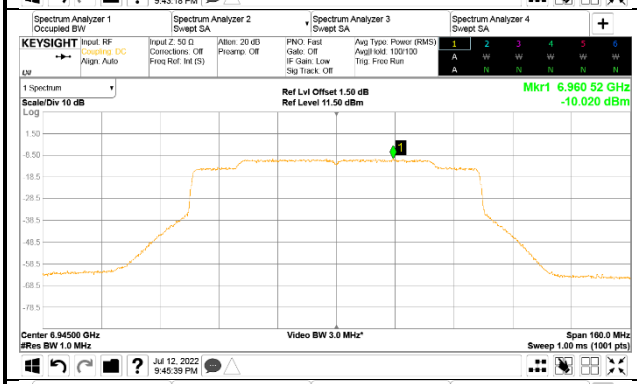
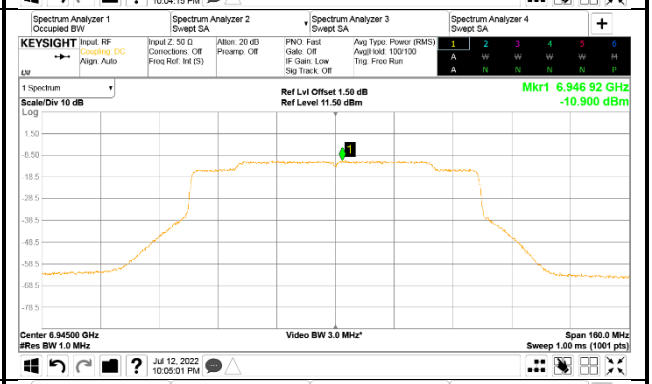
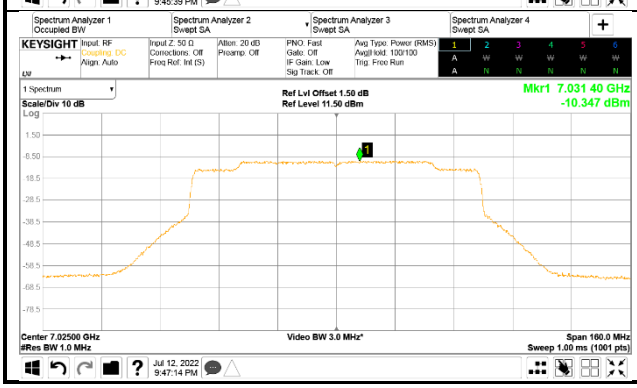
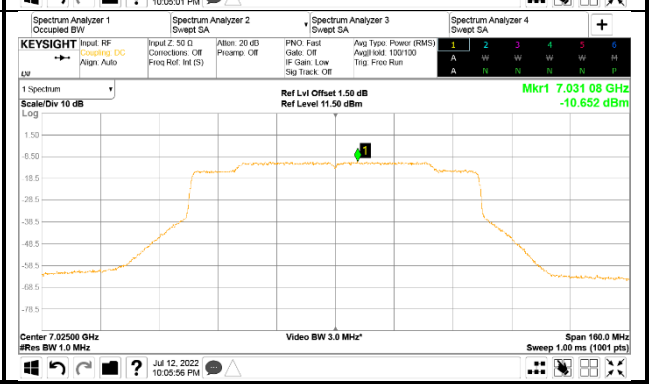
| Mode: 802.11ax-HE80 | |
|---|---|
| AUX | Main |
| U-NII Band 8 | U-NII Band 8 |
|  |  |
|  |  |
|  |  |





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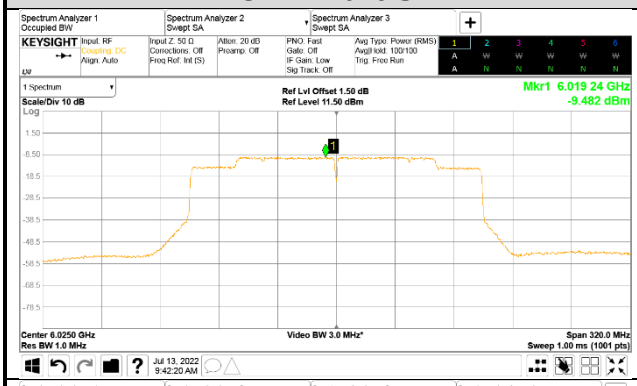
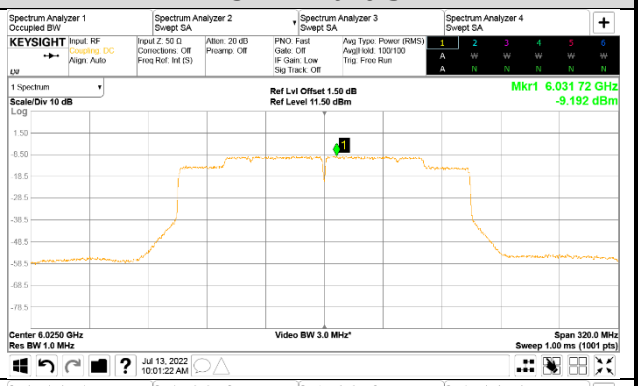
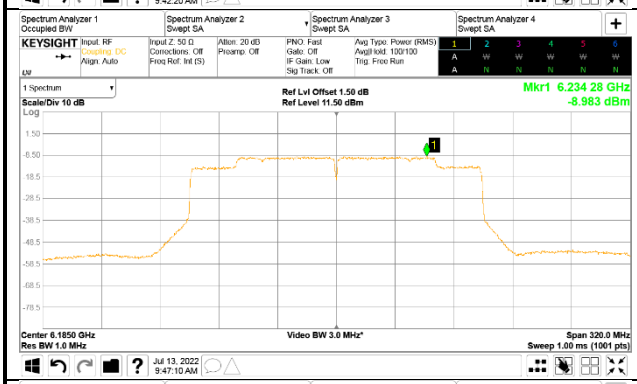
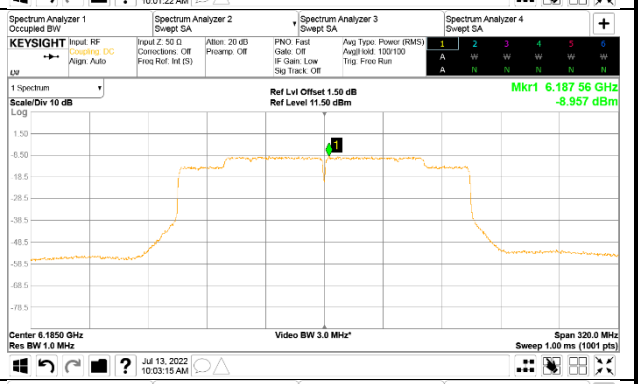
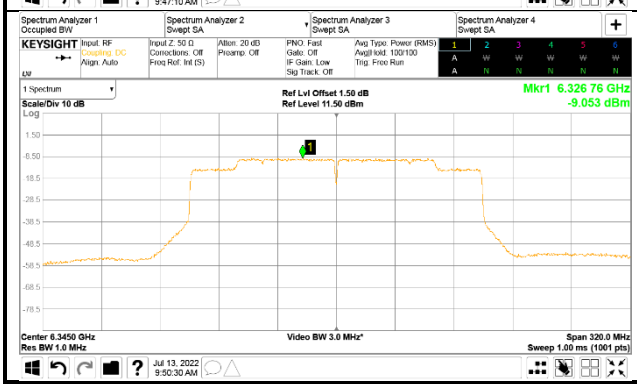
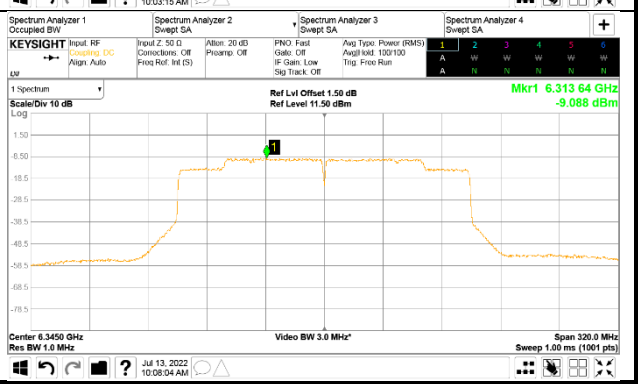
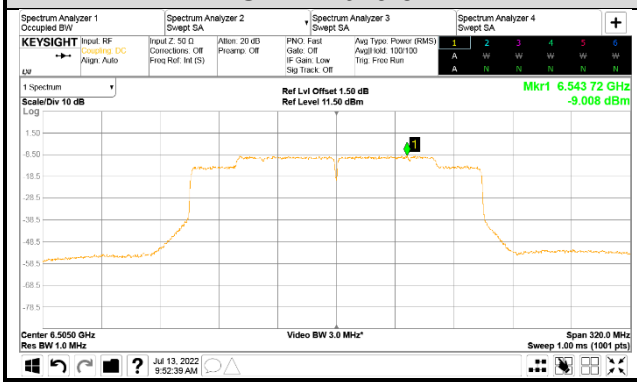
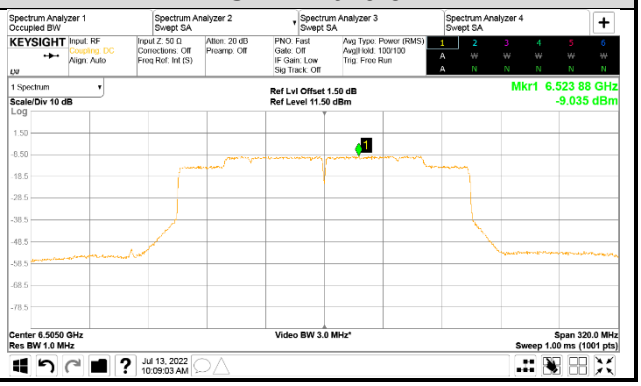
| Mode: 802.11ax-HE160 | |
|---|---|
| AUX | Main |
| U-NII Band 5 | U-NII Band 5 |
|  |  |
|  |  |
|  |  |

| Mode: 802.11ax-HE160 | |
|---|---|
| AUX | Main |
| U-NII Band 6 | U-NII Band 6 |
|  |  |



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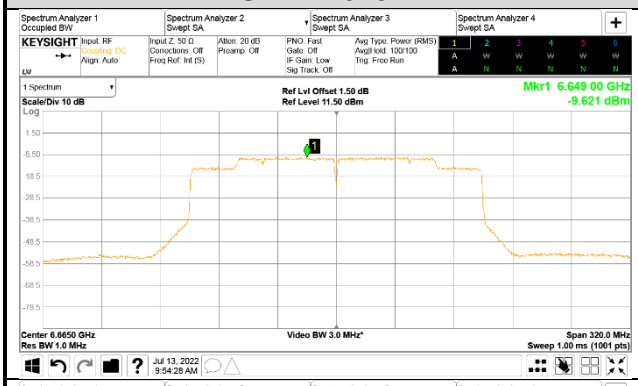
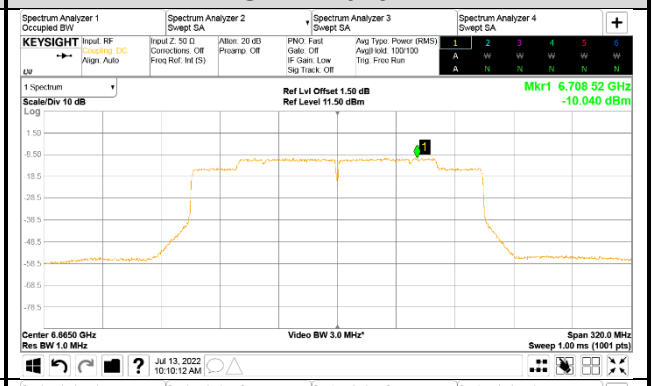
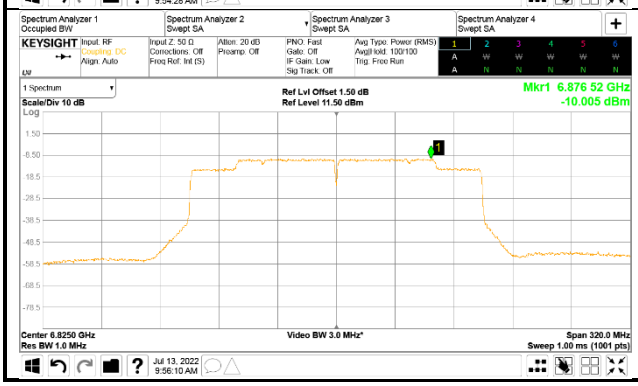
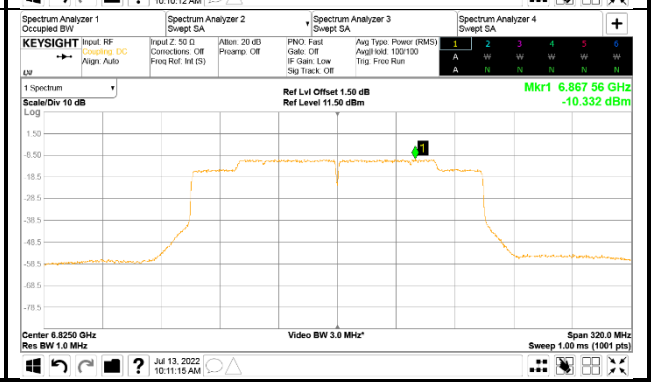
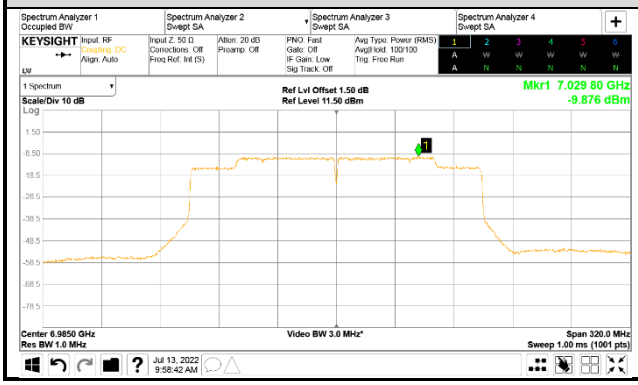
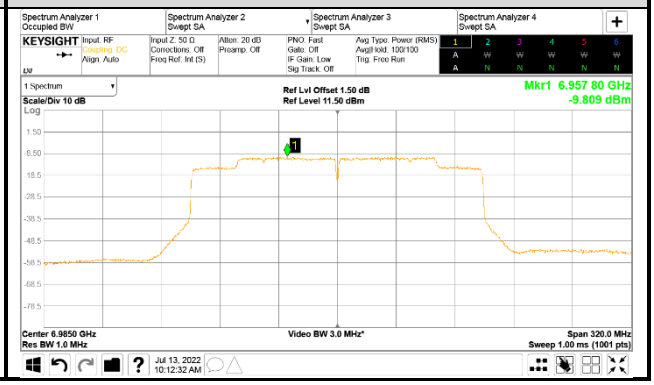
| Mode: 802.11ax-HE160 | |
|---|---|
| AUX | Main |
| U-NII Band 7 | U-NII Band 7 |
|  |  |
|  |  |

| Mode: 802.11ax-HE160 | |
|---|---|
| AUX | Main |
| U-NII Band 8 | U-NII Band 8 |
|  |  |



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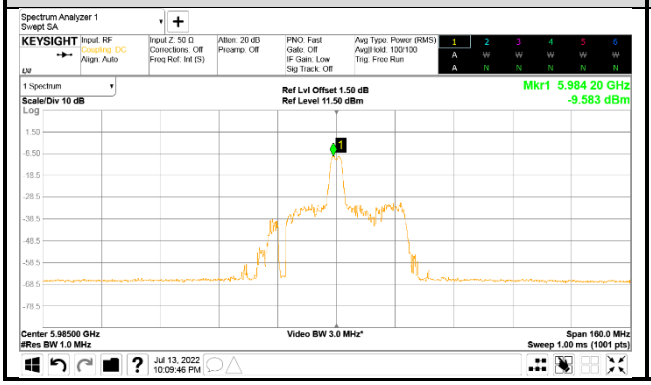
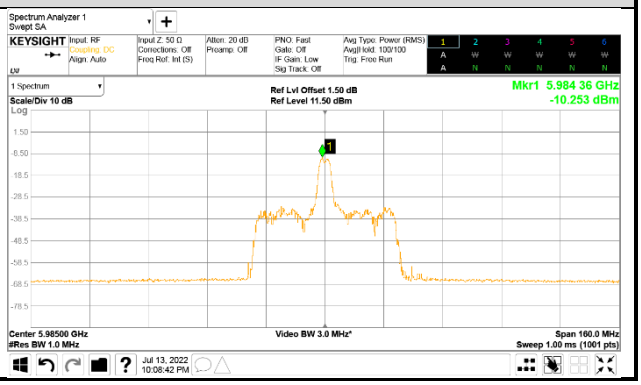
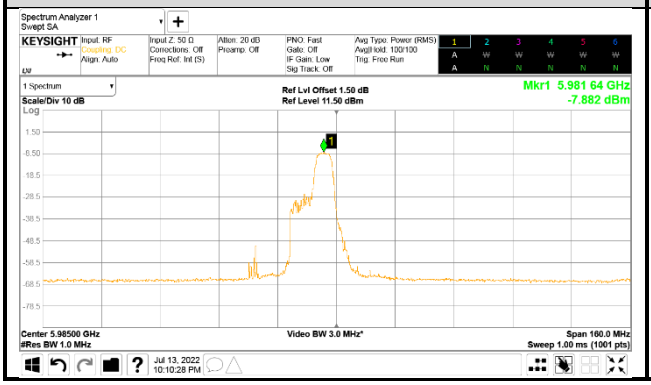
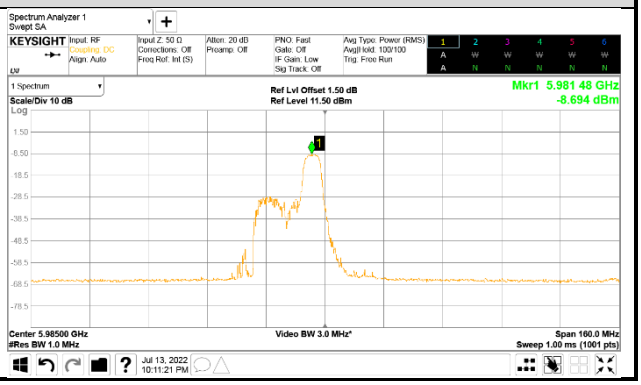
- OFDMA Modulation

| | |
|---|---|
| Tones: | 26T |
| RU Index: | 18 |
| Mode: | 802.11ax-HE80 |
| U-NII Band: | 5 |
| Centre Frequency: | 5985MHz |

| AUX | Main |
|---|---|
|  |  |

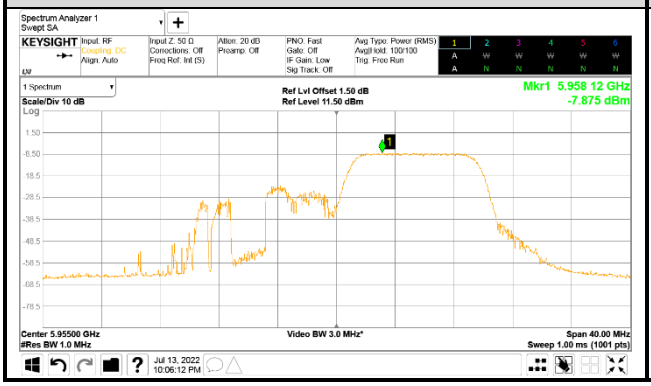
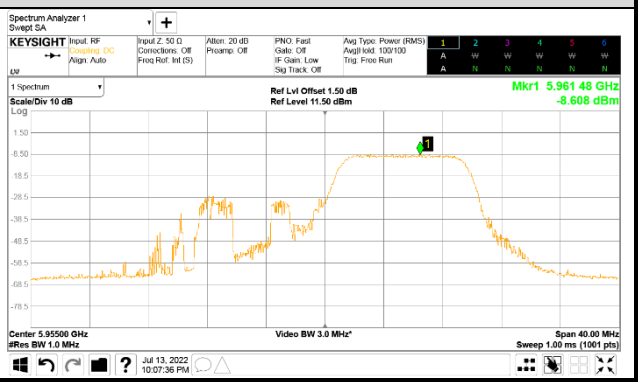


| | |
|---|---|
| Tones: | 52T |
| RU Index: | 44 |
| Mode: | 802.11ax-HE80 |
| U-NII Band: | 5 |
| Centre Frequency: | 5985MHz |

| AUX | Main |
|---|---|
|  |  |



| | |
|---|---|
| Tones: | 106T |
| RU Index: | 54 |
| Mode: | 802.11ax-HE20 |
| U-NII Band: | 5 |
| Centre Frequency: | 5955MHz |

| AUX | Main |
|---|---|
|  |  |





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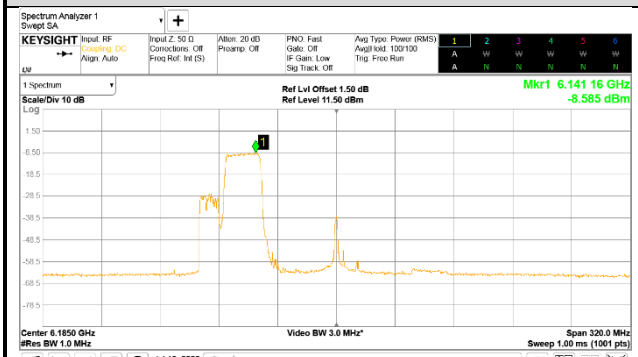
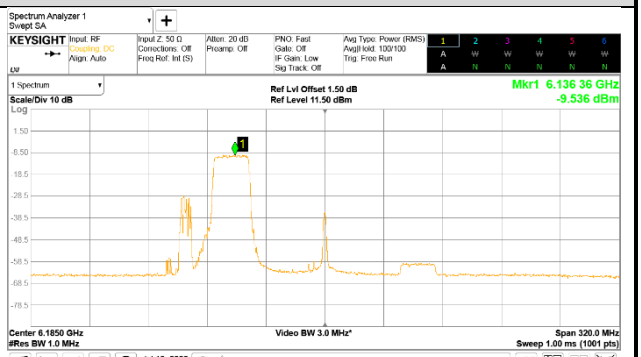
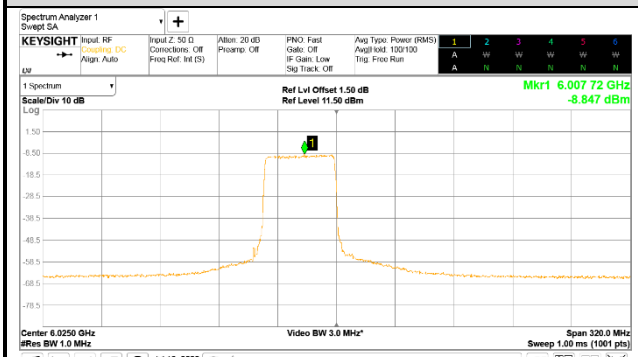
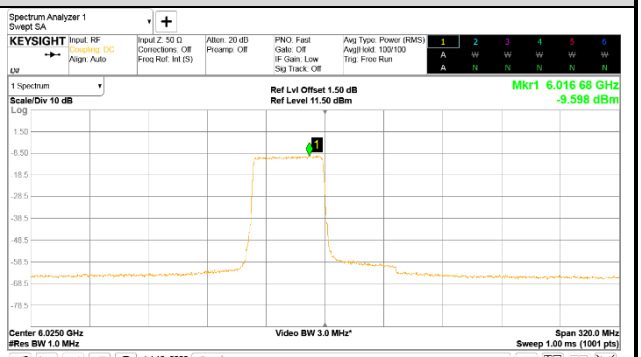
| | |
|---|---|
| Tones: | 242T |
| RU Index: | 62 |
| Mode: | 802.11ax-HE160 |
| U-NII Band: | 5 |
| Centre Frequency: | 6185MHz |

| AUX | Main |
|---|---|
|  |  |

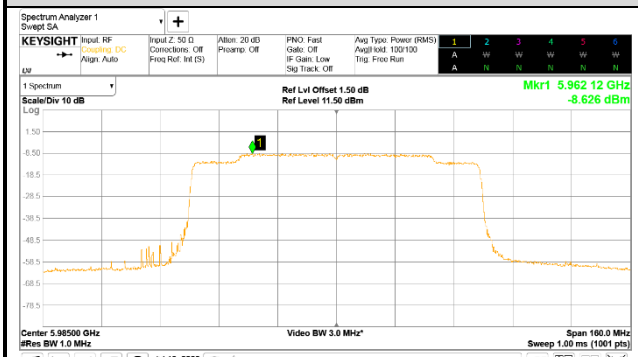
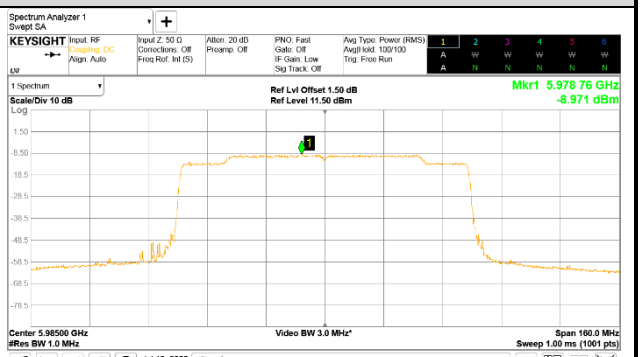


| | |
|---|---|
| Tones: | 484T |
| RU Index: | 66 |
| Mode: | 802.11ax-HE80 |
| U-NII Band: | 5 |
| Centre Frequency: | 6025MHz |

| AUX | Main |
|---|---|
|  |  |



| | |
|---|---|
| Tones: | 996T |
| RU Index: | 67 |
| Mode: | 802.11ax-HE80 |
| U-NII Band: | 5 |
| Centre Frequency: | 5985MHz |

| AUX | Main |
|---|---|
|  |  |





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