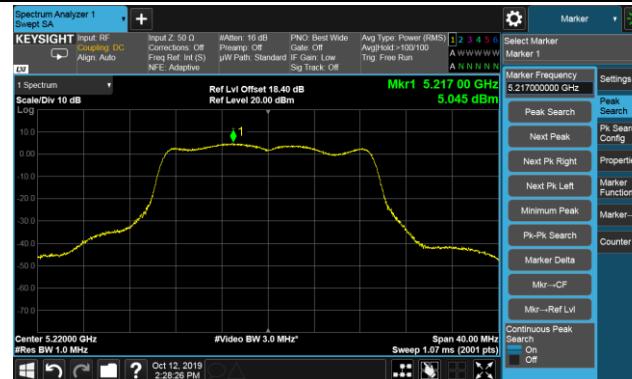


802.11n-HT20 Power Spectral Density - Ant 4 / Ant 1 + 2 + 3 + 4

Channel 36 (5180MHz)



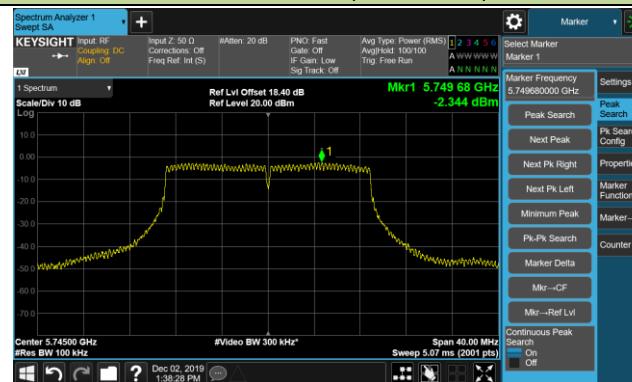
Channel 44 (5220MHz)



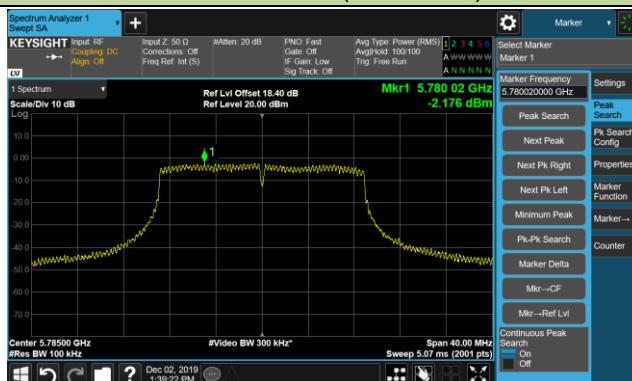
Channel 48 (5240MHz)



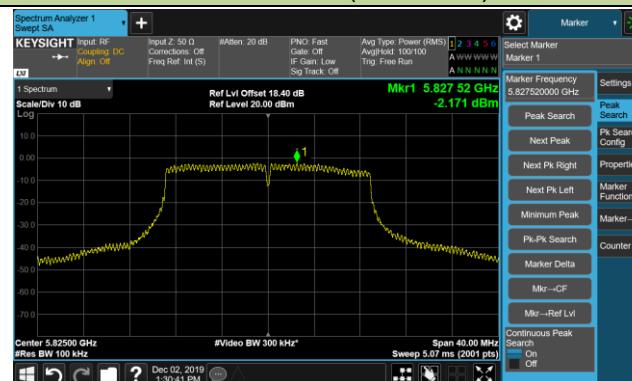
Channel 149 (5745MHz)

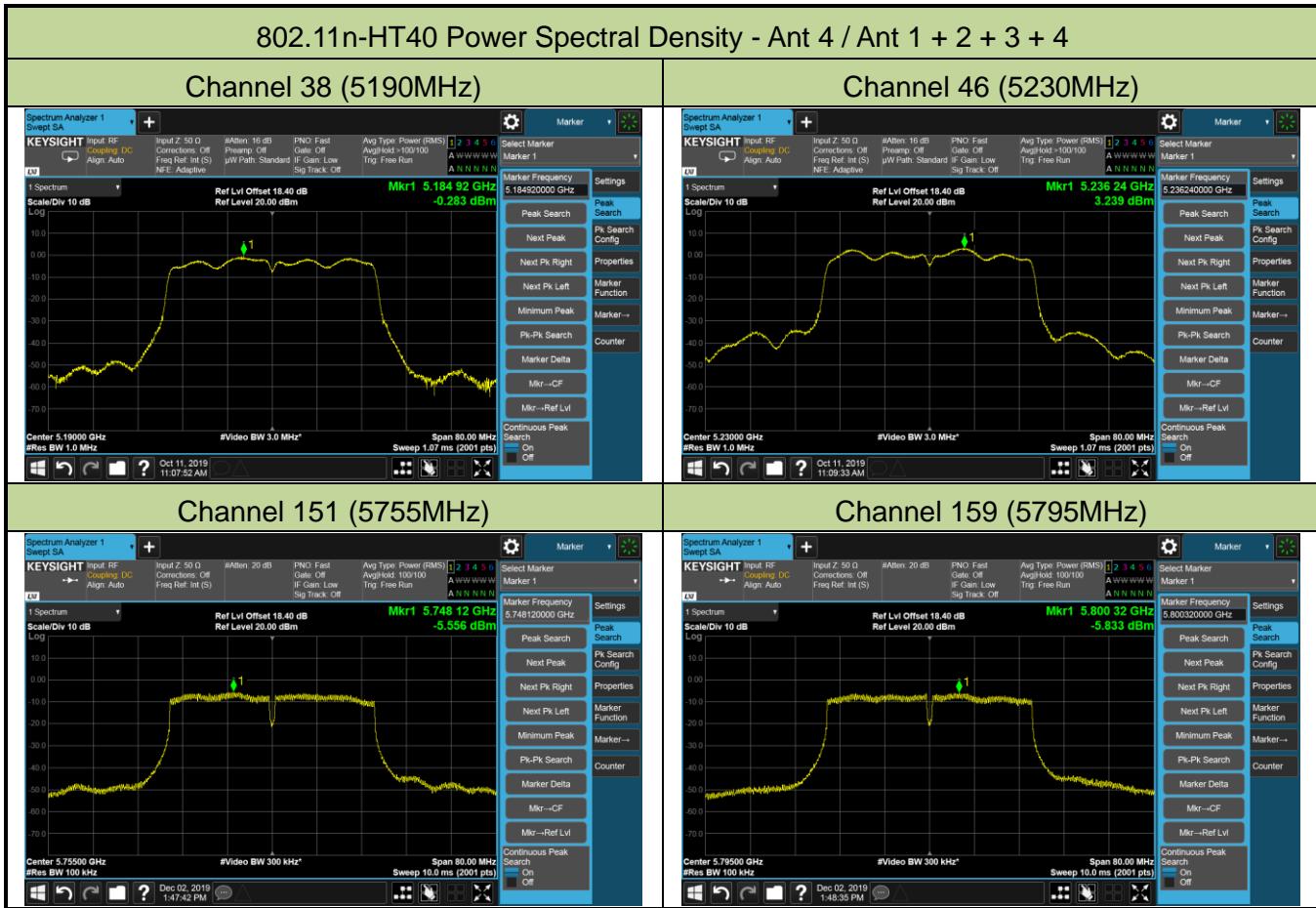


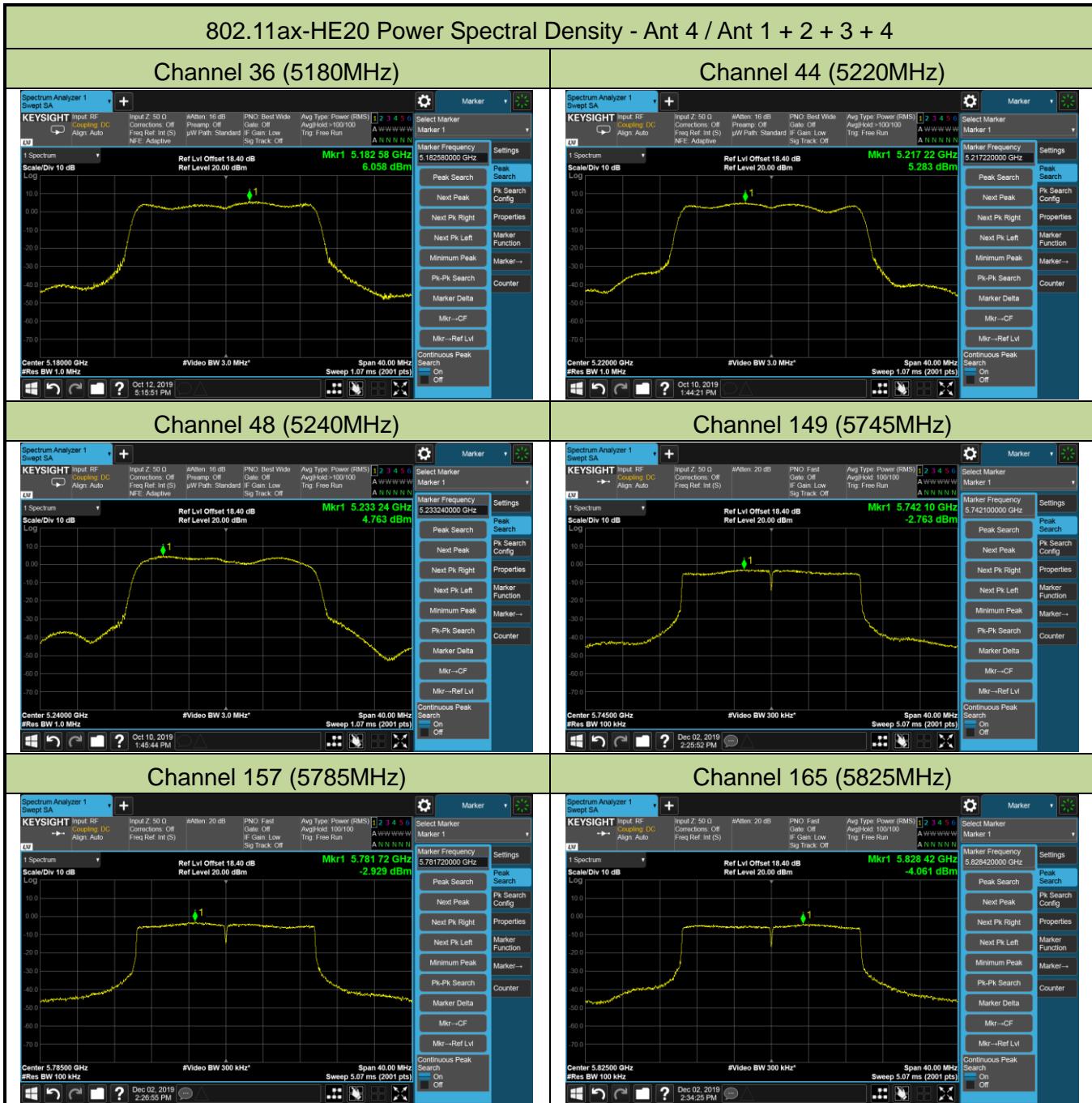
Channel 157 (5785MHz)



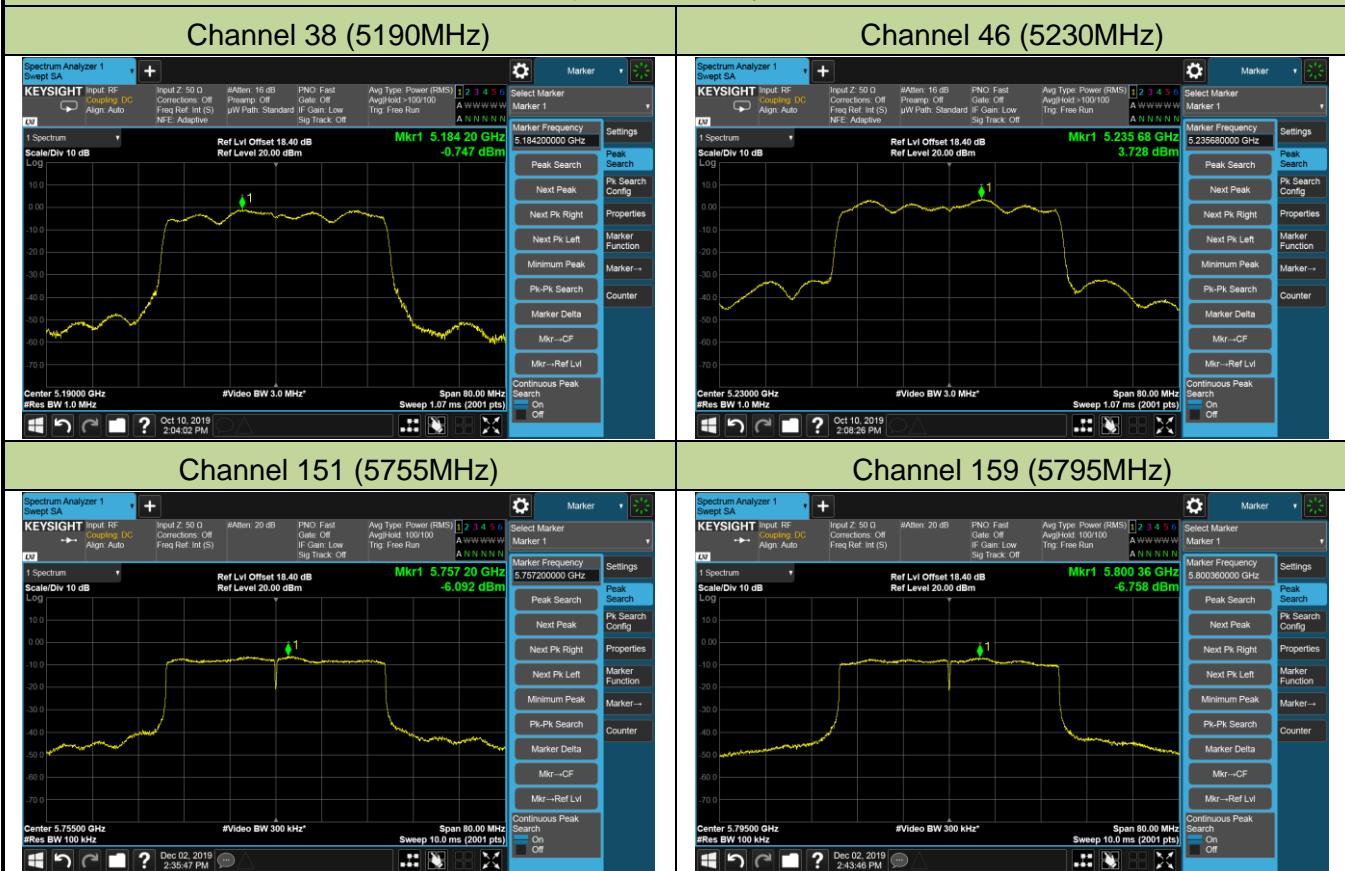
Channel 165 (5825MHz)



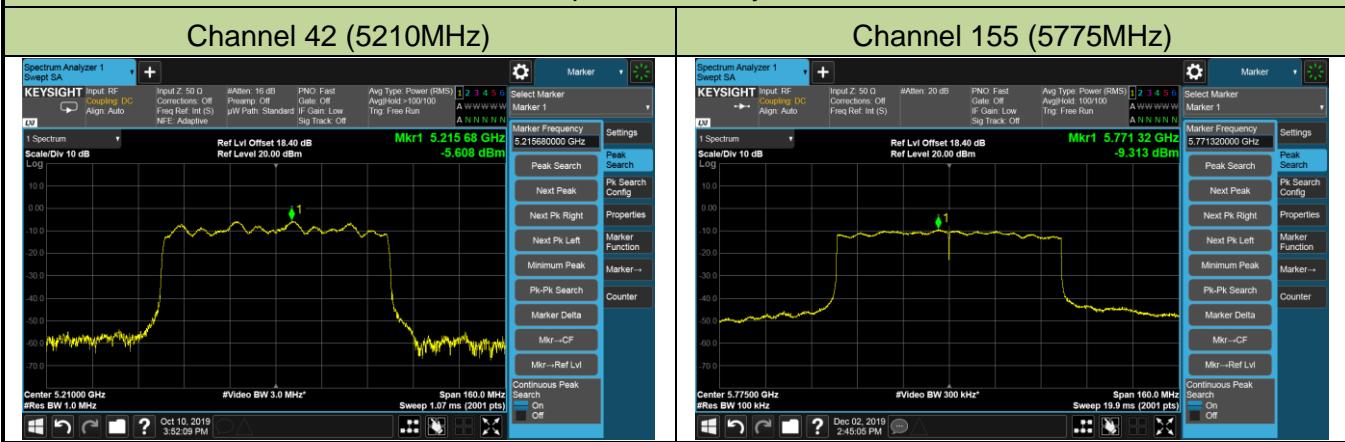


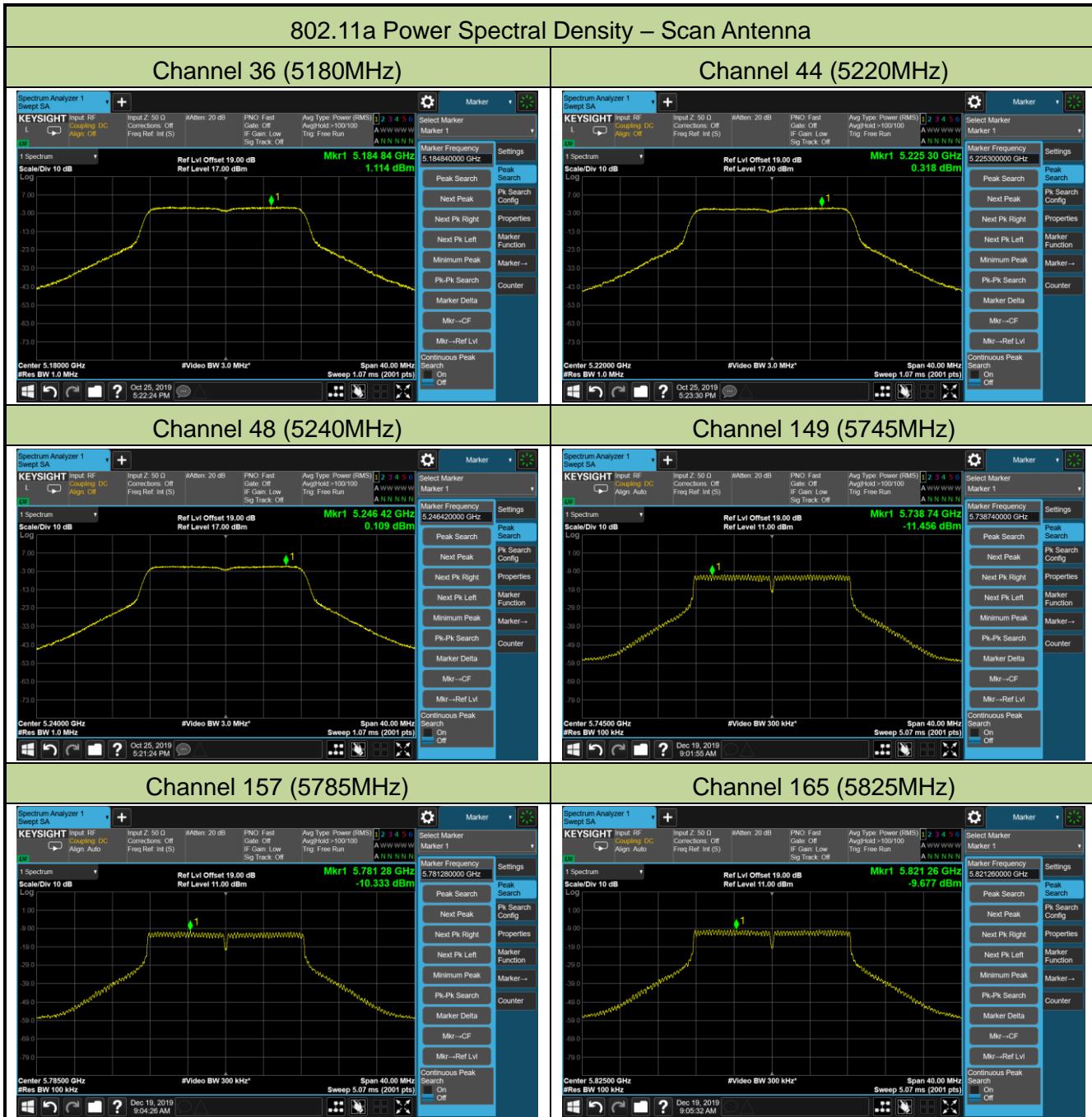


802.11ax-HE40 Power Spectral Density - Ant 4 / Ant 1 + 2 + 3 + 4



802.11ax-HE80 Power Spectral Density - Ant 4 / Ant 1 + 2 + 3 + 4





| | | | | | | | | | | |
|---------------|------------------|--|--|--|-------------------|--|--|------------------------|--|--|
| Product | HAN Access Point | | | | Temperature | | | 22°C | | |
| Test Engineer | Messiah Li | | | | Relative Humidity | | | 54% | | |
| Test Site | TR3 | | | | Test Date | | | 2019/10/12 | | |
| Configuration | AP 321e | | | | Test Item | | | Power Spectral Density | | |

| Test Mode | Data Rate/ MCS | Chan nel No. | Freq. (MHz) | Ant 1 PSD (dBm/ MHz) | Ant 2 PSD (dBm/ MHz) | Ant 3 PSD (dBm/ MHz) | Ant 4 PSD (dBm/ MHz) | Duty Cycle (%) | Total PSD (dBm/ MHz) | PSD Limit (dBm/M Hz) | Result |
|-----------|-------------------|--------------------|----------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|----------------------|-------------------------------|-------------------------------|--------|
| 11a | 6Mbps | 36 | 5180 | 4.87 | 3.85 | 4.14 | 3.34 | 91.70 | 10.48 | ≤ 10.98 | Pass |
| 11a | 6Mbps | 44 | 5220 | 4.69 | 3.67 | 3.72 | 4.44 | 91.70 | 10.55 | ≤ 10.98 | Pass |
| 11a | 6Mbps | 48 | 5240 | 4.39 | 2.94 | 3.91 | 3.62 | 91.70 | 10.14 | ≤ 10.98 | Pass |
| 11n-HT20 | MCS0 | 36 | 5180 | 5.21 | 4.49 | 4.49 | 4.80 | 95.09 | 10.78 | ≤ 10.98 | Pass |
| 11n-HT20 | MCS0 | 44 | 5220 | 4.45 | 4.57 | 3.87 | 3.84 | 95.09 | 10.22 | ≤ 10.98 | Pass |
| 11n-HT20 | MCS0 | 48 | 5240 | 4.53 | 3.98 | 3.96 | 4.12 | 95.09 | 10.17 | ≤ 10.98 | Pass |
| 11n-HT40 | MCS0 | 38 | 5190 | -3.84 | -3.74 | -3.39 | -4.28 | 87.10 | 2.82 | ≤ 10.98 | Pass |
| 11n-HT40 | MCS0 | 46 | 5230 | 4.03 | 3.28 | 3.93 | 3.95 | 87.10 | 10.43 | ≤ 10.98 | Pass |
| 11ax-HE20 | MCS0 | 36 | 5180 | 3.87 | 3.60 | 3.71 | 3.73 | 94.76 | 9.99 | ≤ 10.98 | Pass |
| 11ax-HE20 | MCS0 | 44 | 5220 | 4.74 | 3.65 | 3.60 | 4.13 | 94.76 | 10.31 | ≤ 10.98 | Pass |
| 11ax-HE20 | MCS0 | 48 | 5240 | 3.98 | 4.18 | 3.42 | 3.70 | 94.76 | 10.08 | ≤ 10.98 | Pass |
| 11ax-HE40 | MCS0 | 38 | 5190 | -3.03 | -3.96 | -2.99 | -3.97 | 94.25 | 2.81 | ≤ 10.98 | Pass |
| 11ax-HE40 | MCS0 | 46 | 5230 | 4.25 | 3.71 | 3.86 | 3.88 | 94.25 | 10.21 | ≤ 10.98 | Pass |
| 11ax-HE80 | MCS0 | 42 | 5210 | -7.90 | -8.17 | -7.22 | -7.98 | 93.92 | -1.51 | ≤ 10.98 | Pass |

Note 1: When EUT duty cycle ≥ 98%, the total PSD (dBm/MHz) = $10 \log \{10^{(Ant 1 PSD/10)} + 10^{(Ant 2 PSD/10)} + 10^{(Ant 3 PSD/10)} + 10^{(Ant 4 PSD/10)}\}$ (dBm/MHz).

Note 2: When EUT duty cycle < 98%, the total PSD (dBm/MHz) = $10 \log \{10^{(Ant 1 PSD/10)} + 10^{(Ant 2 PSD/10)} + 10^{(Ant 3 PSD/10)} + 10^{(Ant 4 PSD/10)}\}$ (dBm/MHz) + $10 \log(1/\text{duty cycle})$

Note 3: PSD Limit (dBm/MHz) = $17 \text{ dBm/MHz} - (12.02 \text{ dBi} - 6 \text{ dBi}) = 10.98 \text{ dBm/MHz}$.

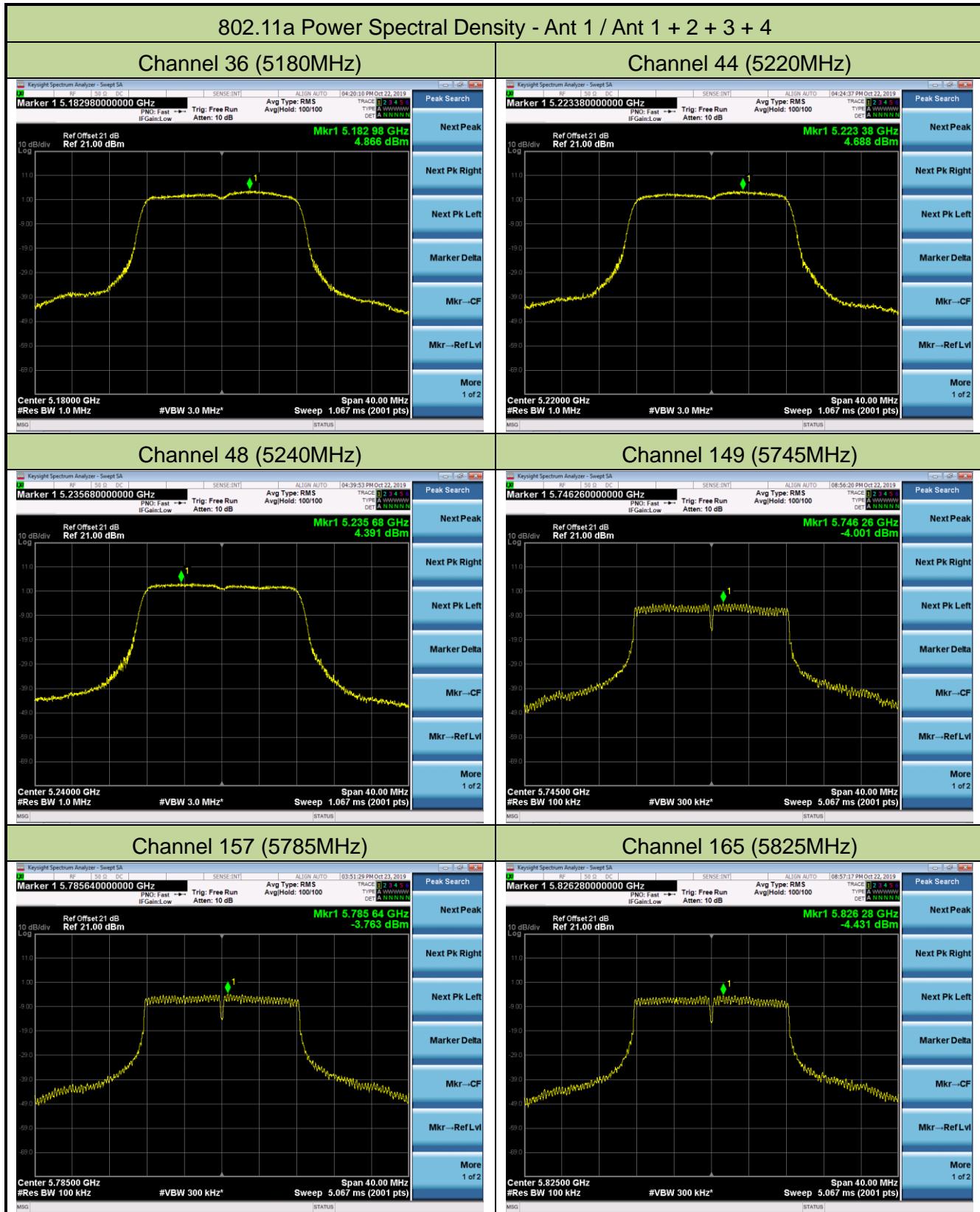
| | | | | | | | | | | |
|---------------|------------------|--|--|--|-------------------|--|--|------------------------|--|--|
| Product | HAN Access Point | | | | Temperature | | | 22°C | | |
| Test Engineer | Messiah Li | | | | Relative Humidity | | | 54% | | |
| Test Site | TR3 | | | | Test Date | | | 2019/10/12 | | |
| Configuration | AP 321e | | | | Test Item | | | Power Spectral Density | | |

| Test Mode | Data Rate/ MCS | Chann el No. | Freq. (MHz) | Ant 1 PSD (dBm/ 100kHz) | Ant 2 PSD (dBm/ 100kHz) | Ant 3 PSD (dBm/ 100kHz) | Ant 4 PSD (dBm/ 100kHz) | Duty Cycle (%) | Constant Factor | Total PSD (dBm/ 500kHz) | Limit (dBm/ 500kHz) | Result |
|-----------|-------------------|-----------------|----------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------|--------------------|-------------------------------|---------------------------|--------|
| 11a | 6Mbps | 149 | 5745 | -4.00 | -4.71 | -3.59 | -4.53 | 91.70 | 6.99 | 9.20 | ≤23.98 | Pass |
| 11a | 6Mbps | 157 | 5785 | -3.76 | -4.40 | -3.47 | -4.31 | 91.70 | 6.99 | 9.42 | ≤23.98 | Pass |
| 11a | 6Mbps | 165 | 5825 | -4.43 | -5.28 | -3.48 | -4.19 | 91.70 | 6.99 | 9.09 | ≤23.98 | Pass |
| 11n-HT20 | MCS0 | 149 | 5745 | -5.30 | -5.35 | -5.64 | -4.93 | 95.09 | 6.99 | 7.71 | ≤23.98 | Pass |
| 11n-HT20 | MCS0 | 157 | 5785 | -4.36 | -4.97 | -4.70 | -3.82 | 95.09 | 6.99 | 8.57 | ≤23.98 | Pass |
| 11n-HT20 | MCS0 | 165 | 5825 | -5.56 | -6.28 | -5.22 | -5.01 | 95.09 | 6.99 | 7.52 | ≤23.98 | Pass |
| 11n-HT40 | MCS0 | 151 | 5755 | -7.21 | -7.38 | -7.50 | -7.13 | 87.10 | 6.99 | 6.31 | ≤23.98 | Pass |
| 11n-HT40 | MCS0 | 159 | 5795 | -7.59 | -7.76 | -7.53 | -7.33 | 87.10 | 6.99 | 6.06 | ≤23.98 | Pass |
| 11ax-HE20 | MCS0 | 149 | 5745 | -5.09 | -9.01 | -5.54 | -5.06 | 94.76 | 6.99 | 7.34 | ≤23.98 | Pass |
| 11ax-HE20 | MCS0 | 157 | 5785 | -5.26 | -7.43 | -4.35 | -5.27 | 94.76 | 6.99 | 7.81 | ≤23.98 | Pass |
| 11ax-HE20 | MCS0 | 165 | 5825 | -5.37 | -7.22 | -5.35 | -4.87 | 94.76 | 6.99 | 7.63 | ≤23.98 | Pass |
| 11ax-HE40 | MCS0 | 151 | 5755 | -8.37 | -8.88 | -7.67 | -8.27 | 94.25 | 6.99 | 4.99 | ≤23.98 | Pass |
| 11ax-HE40 | MCS0 | 159 | 5795 | -7.96 | -8.29 | -7.95 | -7.65 | 94.25 | 6.99 | 5.31 | ≤23.98 | Pass |
| 11ax-HE80 | MCS0 | 155 | 5775 | -12.02 | -12.14 | -11.08 | -11.74 | 93.92 | 6.99 | 1.56 | ≤23.98 | Pass |

Note 1: When EUT duty cycle ≥ 98%, the total PSD (dBm/500kHz) = $10^{\log \{10^{(Ant 1 PSD/10)} + 10^{(Ant 2 PSD/10)} + 10^{(Ant 3 PSD/10)} + 10^{(Ant 4 PSD/10)}\}} (dBm/100kHz) + Constant Factor.$

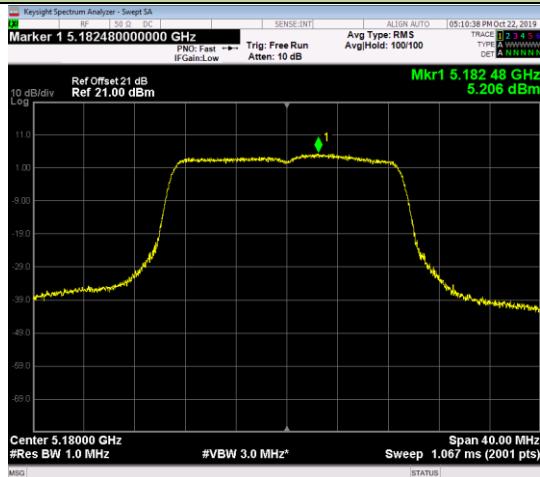
Note 2: When EUT duty cycle < 98%, the total PSD (dBm/500kHz) = $10^{\log \{10^{(Ant 1 PSD/10)} + 10^{(Ant 2 PSD/10)} + 10^{(Ant 3 PSD/10)} + 10^{(Ant 4 PSD/10)}\}} (dBm/100kHz) + Constant Factor + 10^{\log (1/Duty Cycle)}..$

Note 3: PSD Limit (dBm/500kHz) = 30dBm/500kHz - (12.02dB_i - 6dB_i) = 23.98dBm/500kHz.

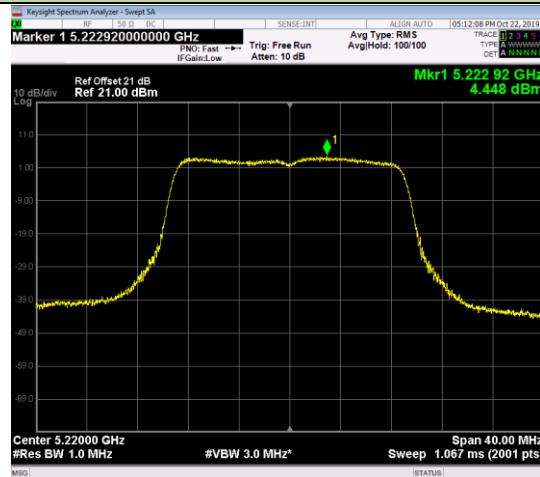


802.11n-HT20 Power Spectral Density - Ant 1 / Ant 1 + 2 + 3 + 4

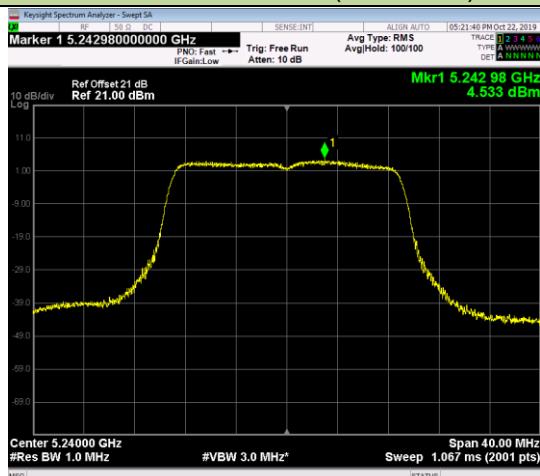
Channel 36 (5180MHz)



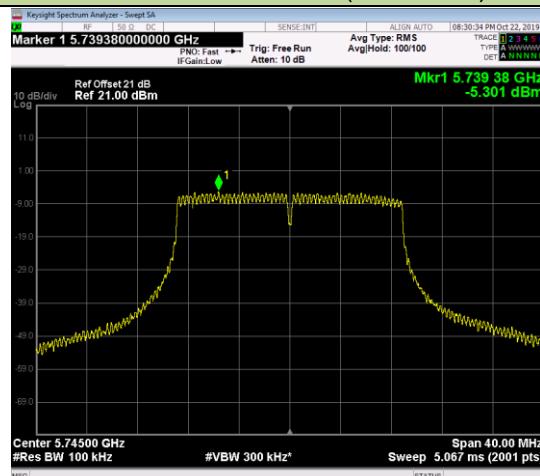
Channel 44 (5220MHz)



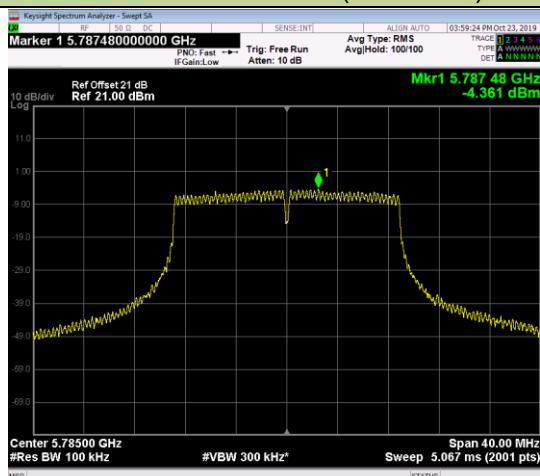
Channel 48 (5240MHz)



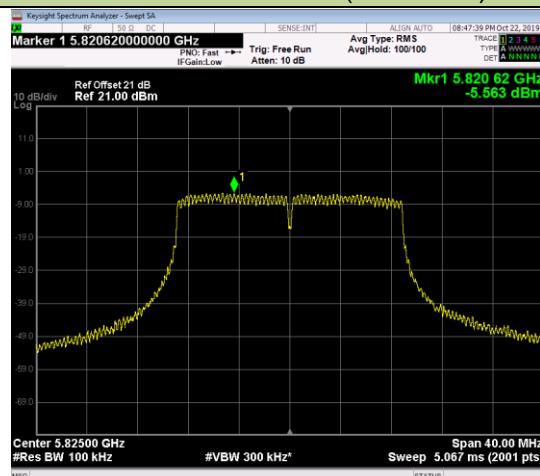
Channel 149 (5745MHz)



Channel 157 (5785MHz)

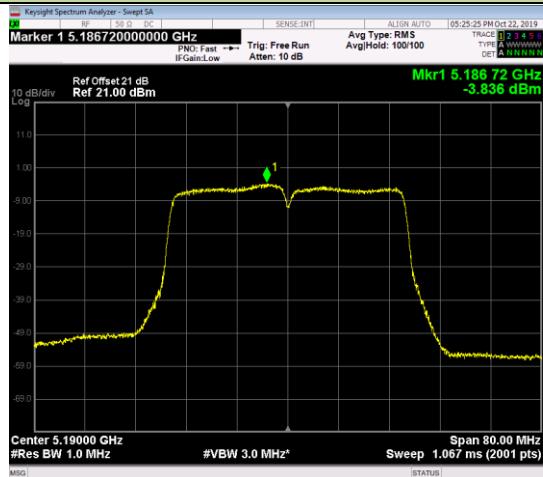


Channel 165 (5825MHz)

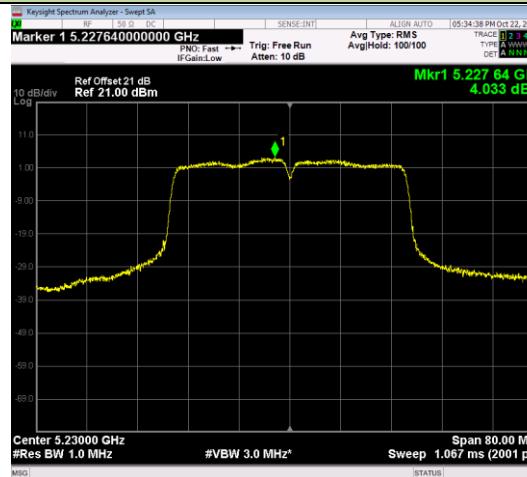


802.11n-HT40 Power Spectral Density - Ant 1 / Ant 1 + 2 + 3 + 4

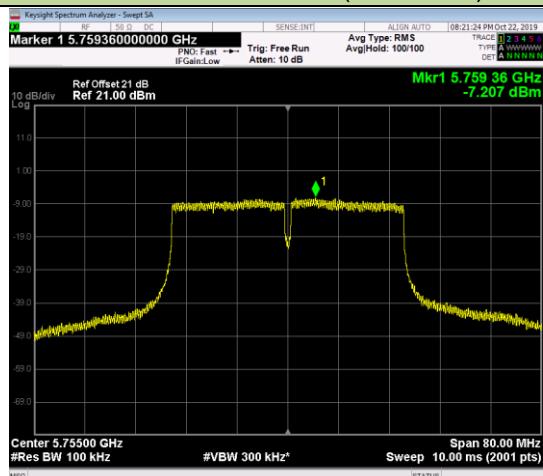
Channel 38 (5190MHz)



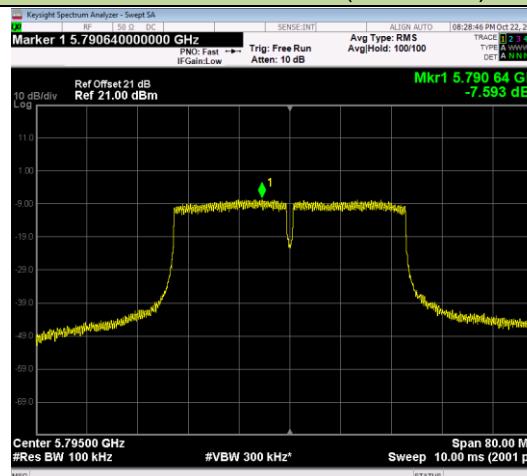
Channel 46 (5230MHz)



Channel 151 (5755MHz)

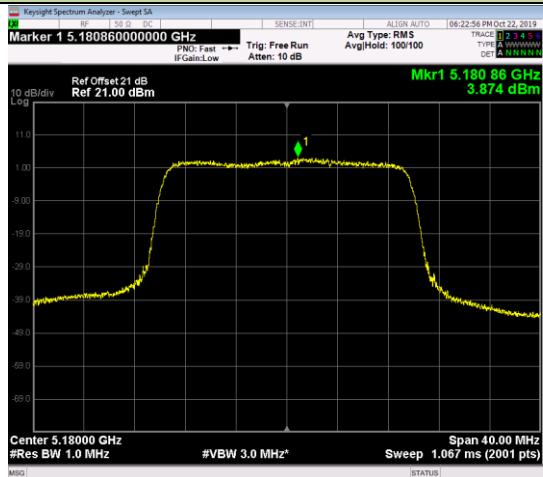


Channel 159 (5795MHz)



802.11ax-HE20 Power Spectral Density - Ant 1 / Ant 1 + 2 + 3 + 4

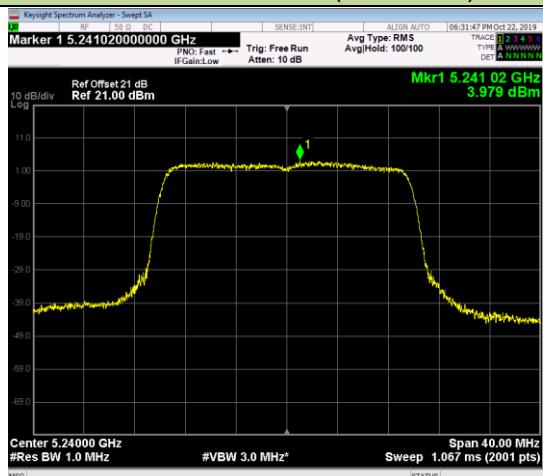
Channel 36 (5180MHz)



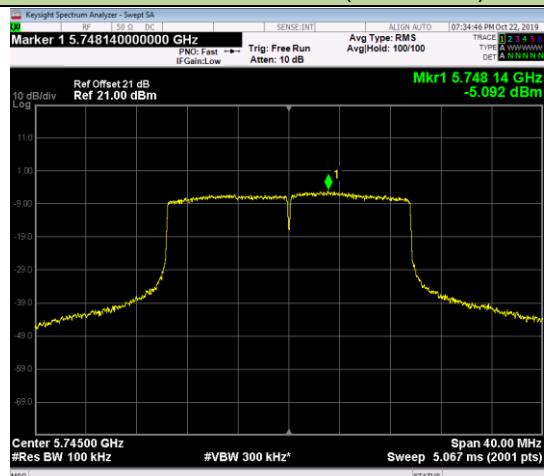
Channel 44 (5220MHz)



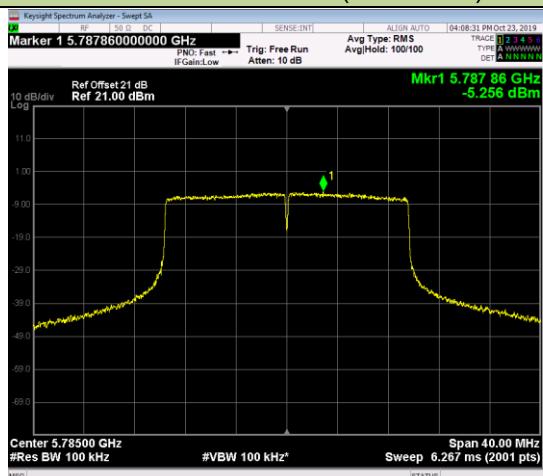
Channel 48 (5240MHz)



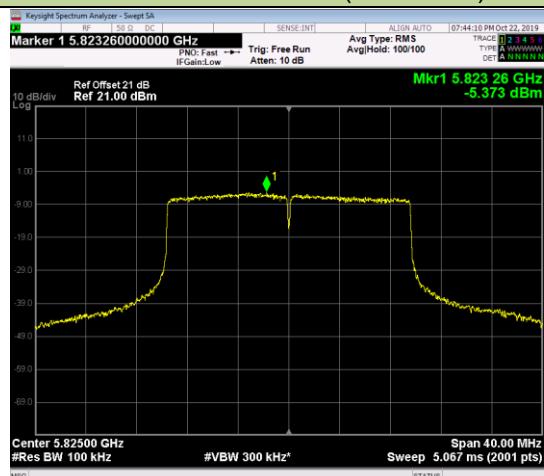
Channel 149 (5745MHz)



Channel 157 (5785MHz)



Channel 165 (5825MHz)

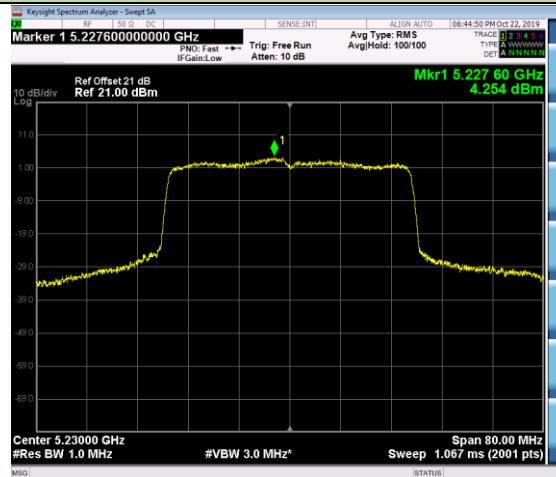


802.11ax-HE40 Power Spectral Density - Ant 1 / Ant 1 + 2 + 3 + 4

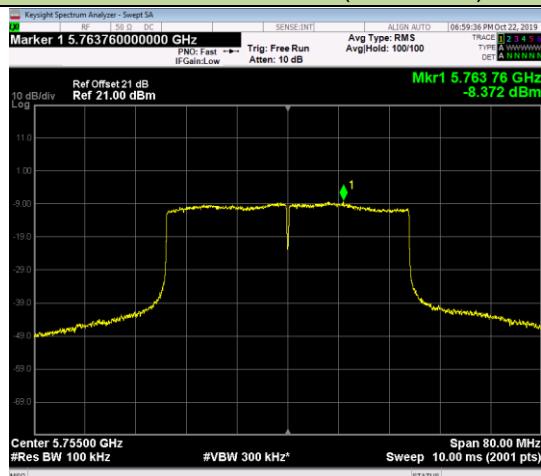
Channel 38 (5190MHz)



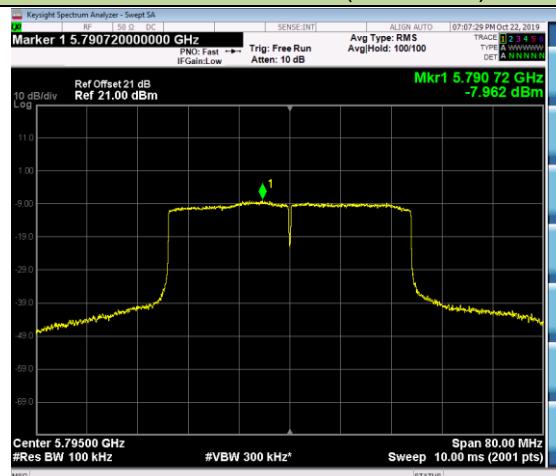
Channel 46 (5230MHz)



Channel 151 (5755MHz)

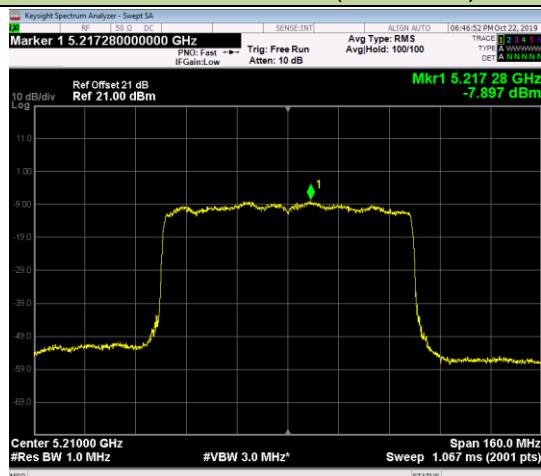


Channel 159 (5795MHz)



802.11ax-HE80 Power Spectral Density - Ant 1 / Ant 1 + 2 + 3 + 4

Channel 42 (5210MHz)



Channel 155 (5775MHz)



