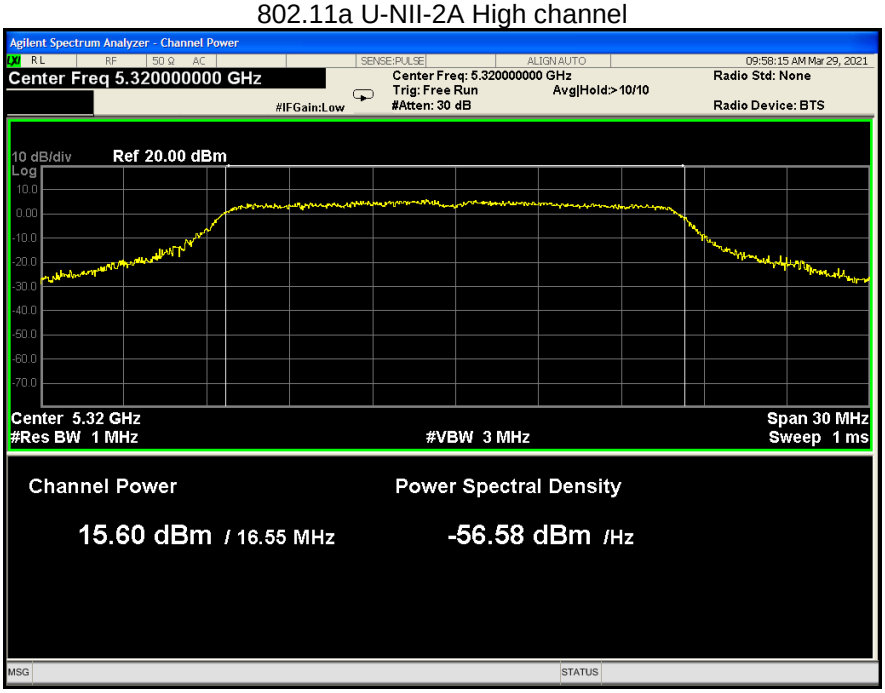
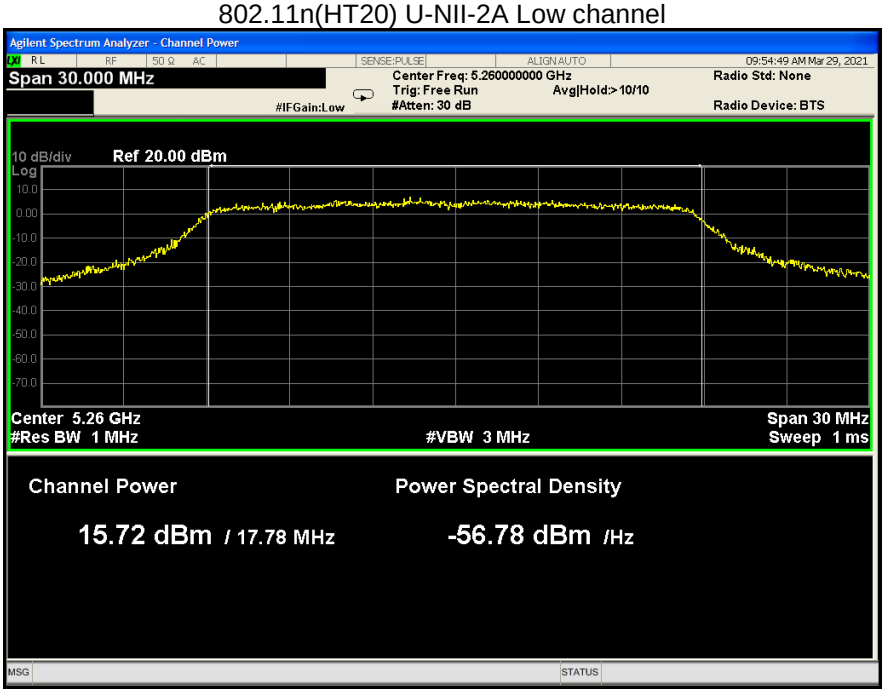
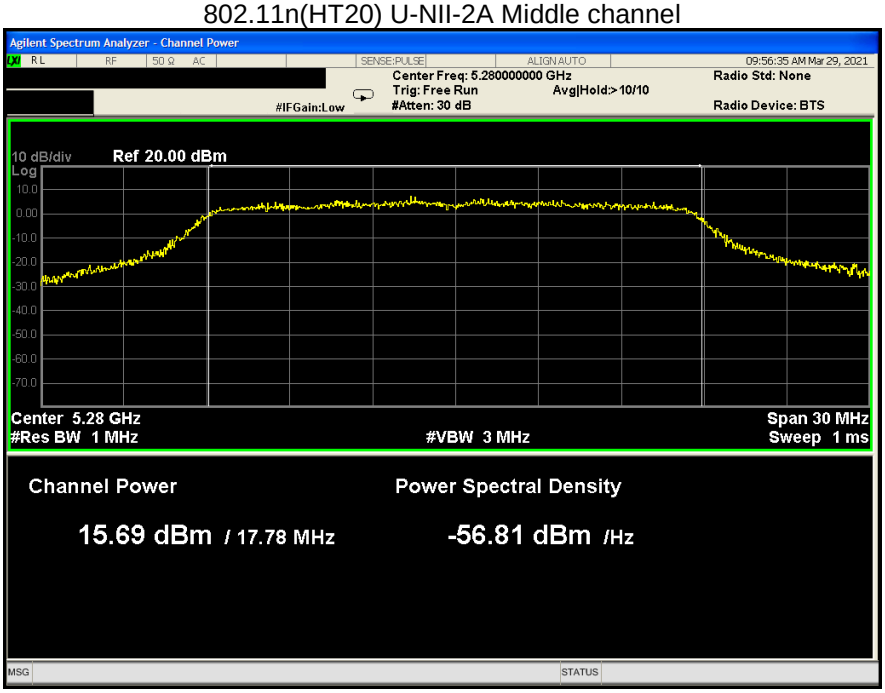
802.11a U-NII-2A High channel



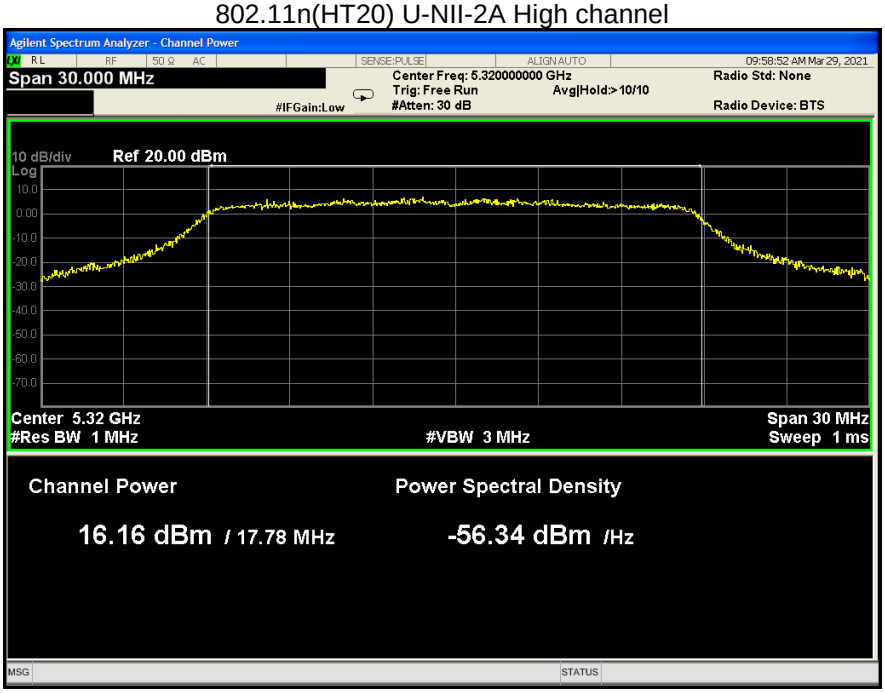

802.11n(HT20) U-NII-2A Low channel



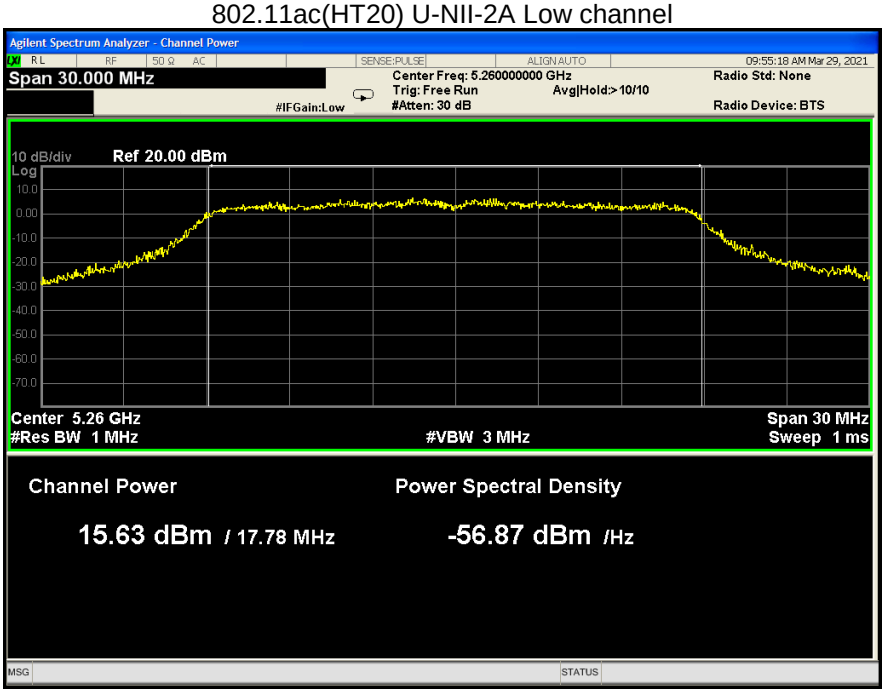
802.11n(HT20) U-NII-2A Middle channel



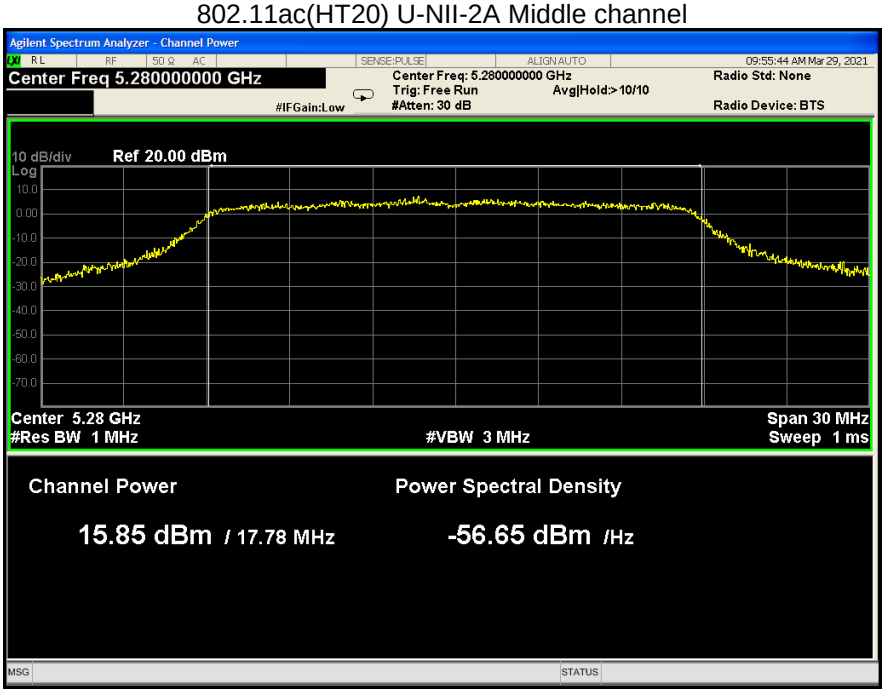

802.11n(HT20) U-NII-2A High channel



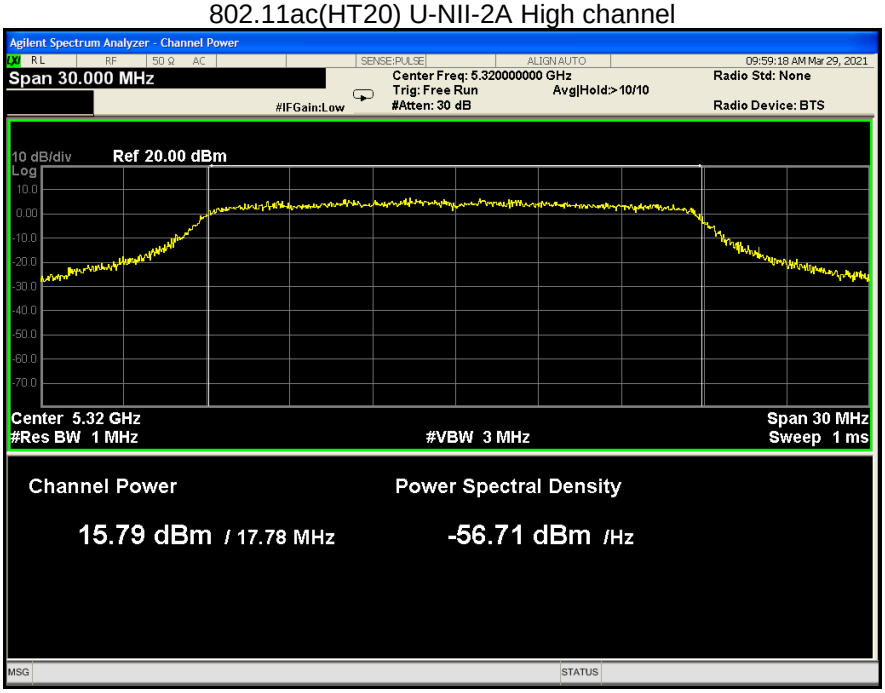
802.11ac(HT20) U-NII-2A Low channel



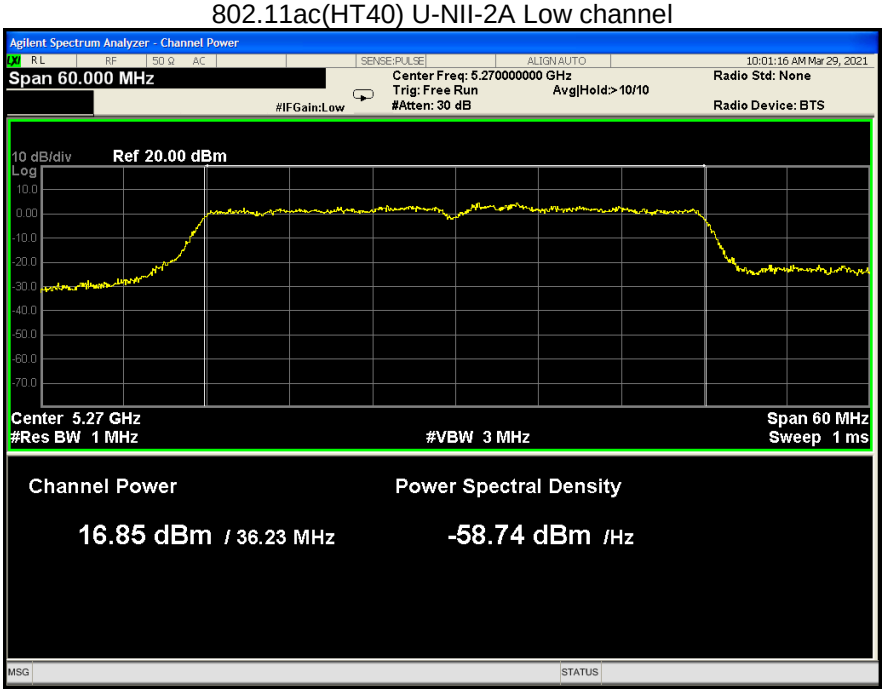

802.11ac(HT20) U-NII-2A Middle channel



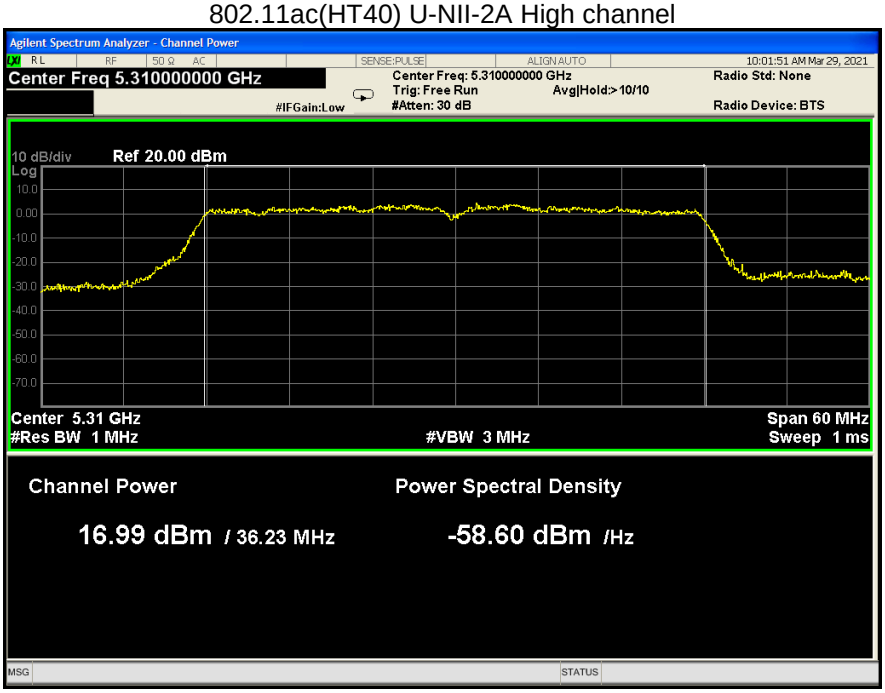
802.11ac(HT20) U-NII-2A High channel



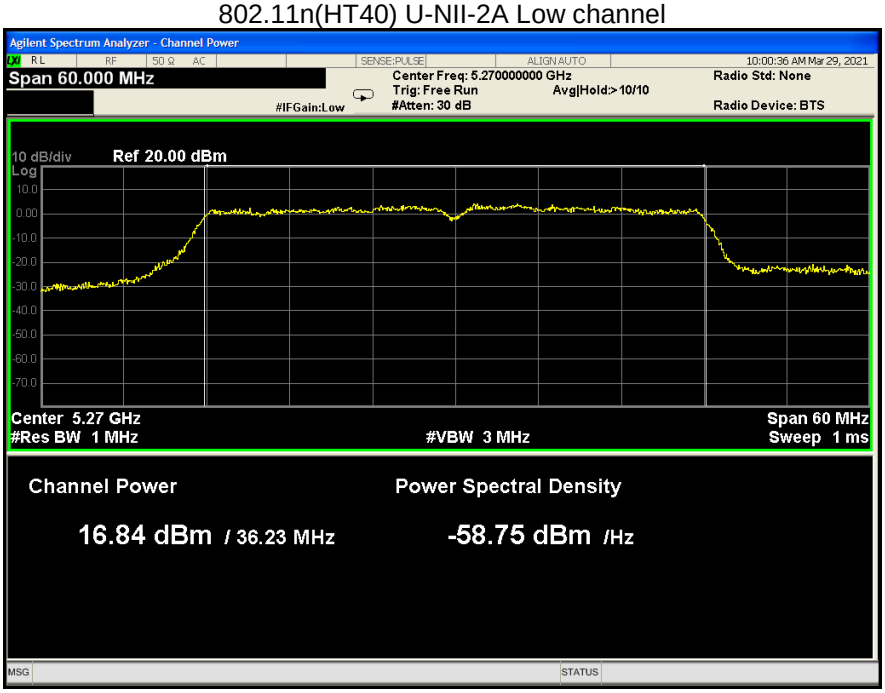

802.11ac(HT40) U-NII-2A Low channel



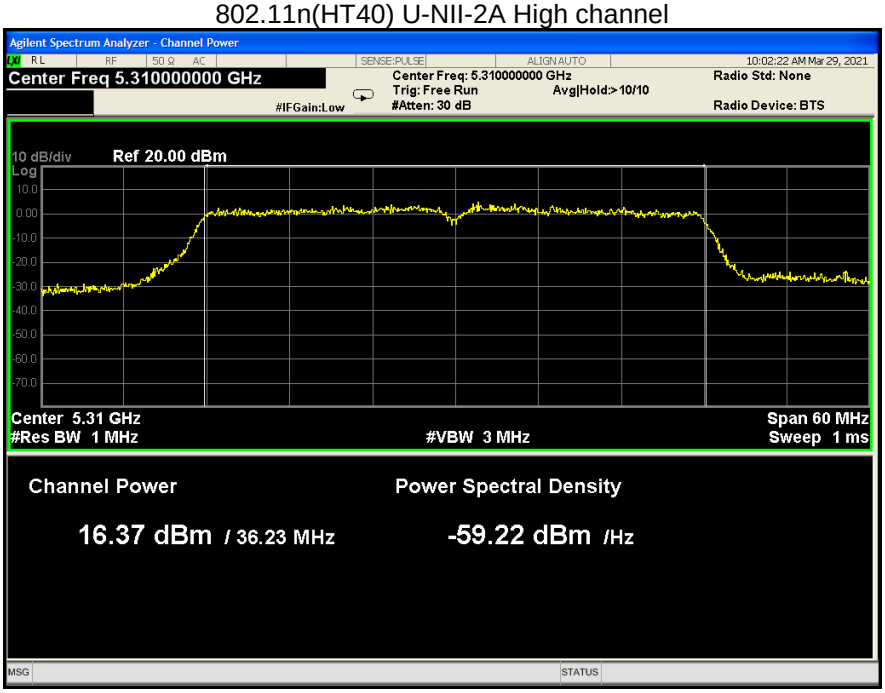
802.11ac(HT40) U-NII-2A High channel



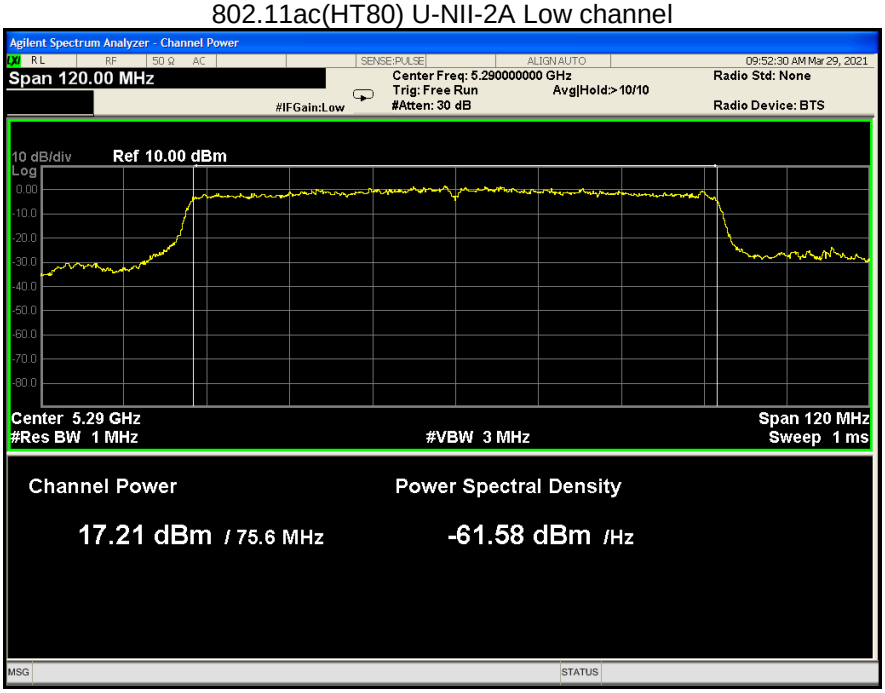

802.11n(HT40) U-NII-2A Low channel



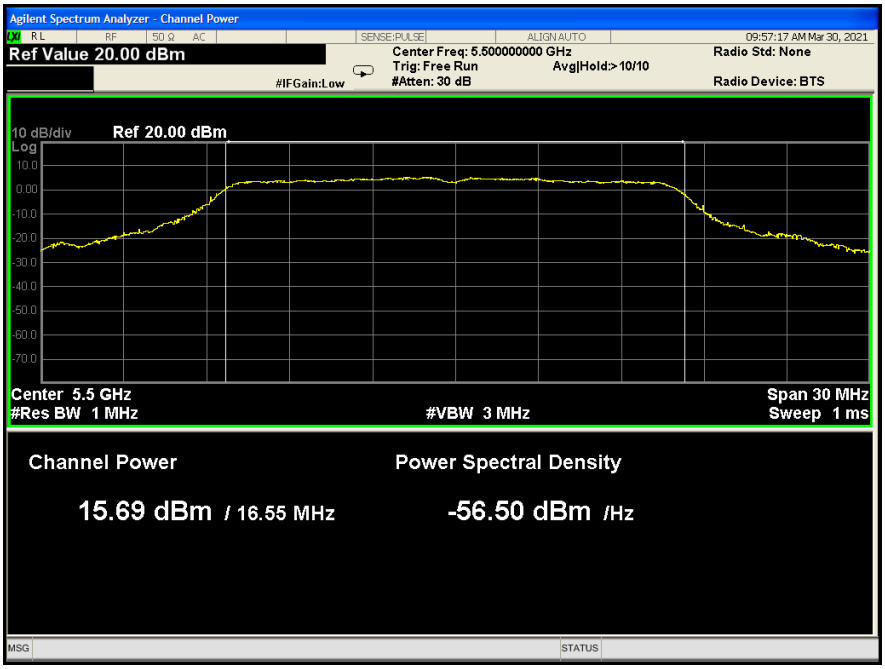
802.11n(HT40) U-NII-2A High channel



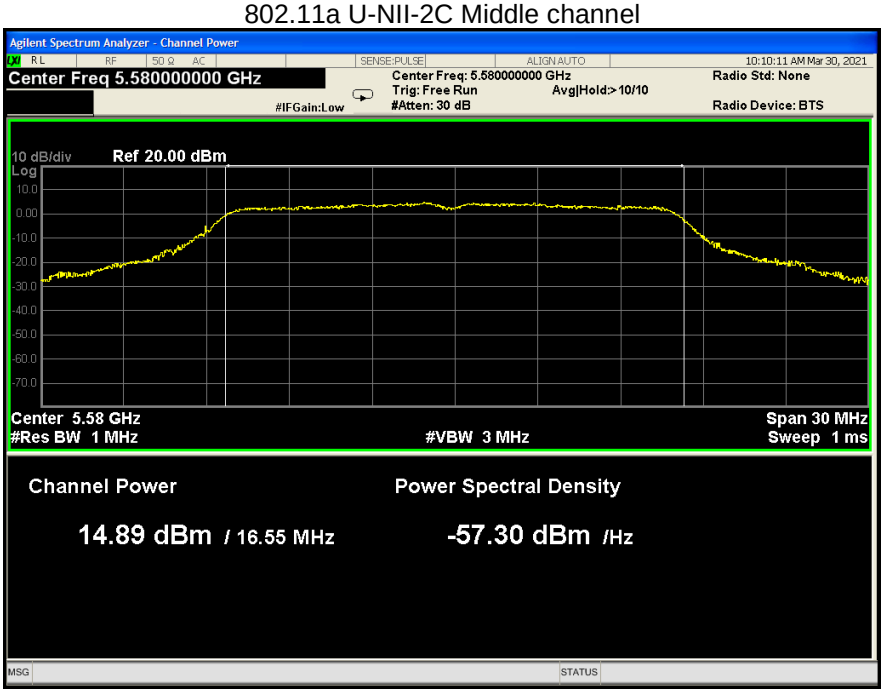

802.11ac(HT80) U-NII-2A Low channel



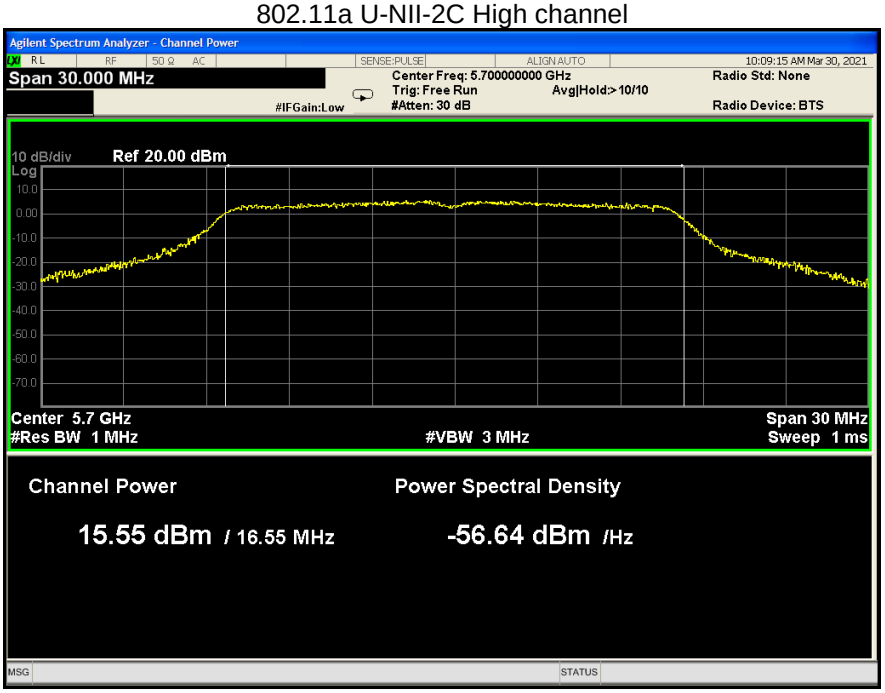
802.11a U-NII-2C Low channel



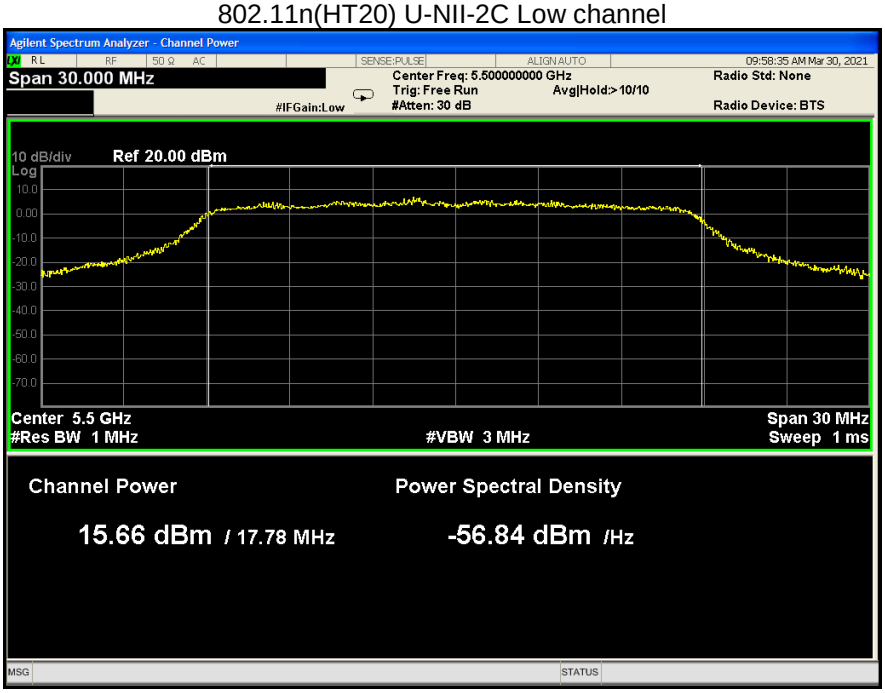

802.11a U-NII-2C Middle channel



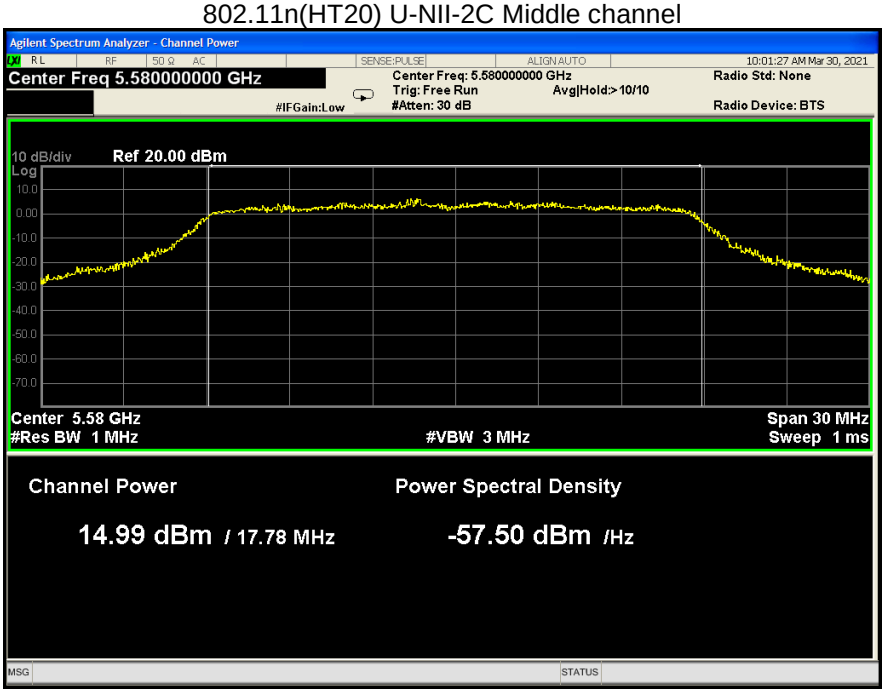
802.11a U-NII-2C High channel



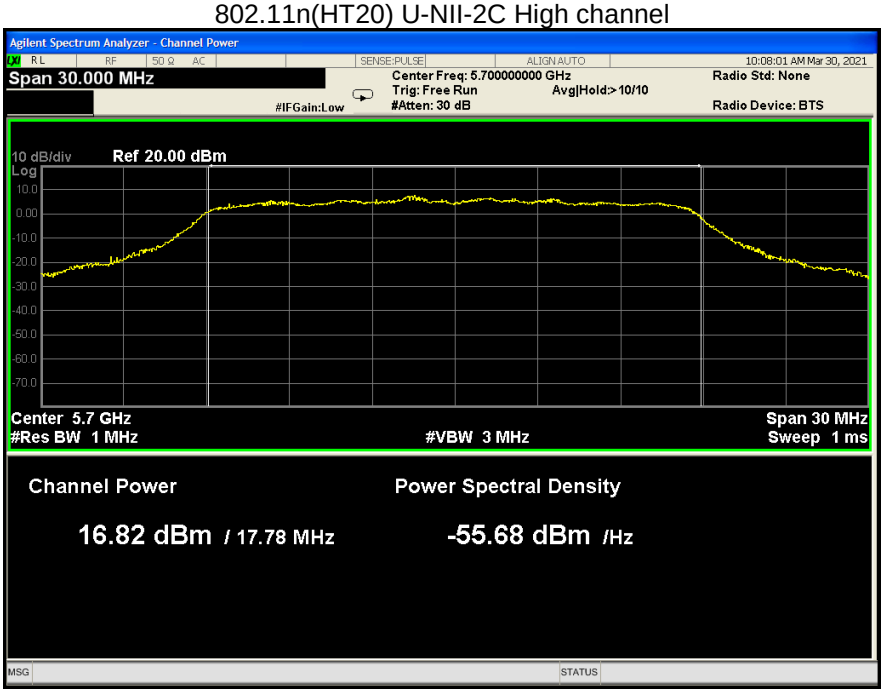

802.11n(HT20) U-NII-2C Low channel



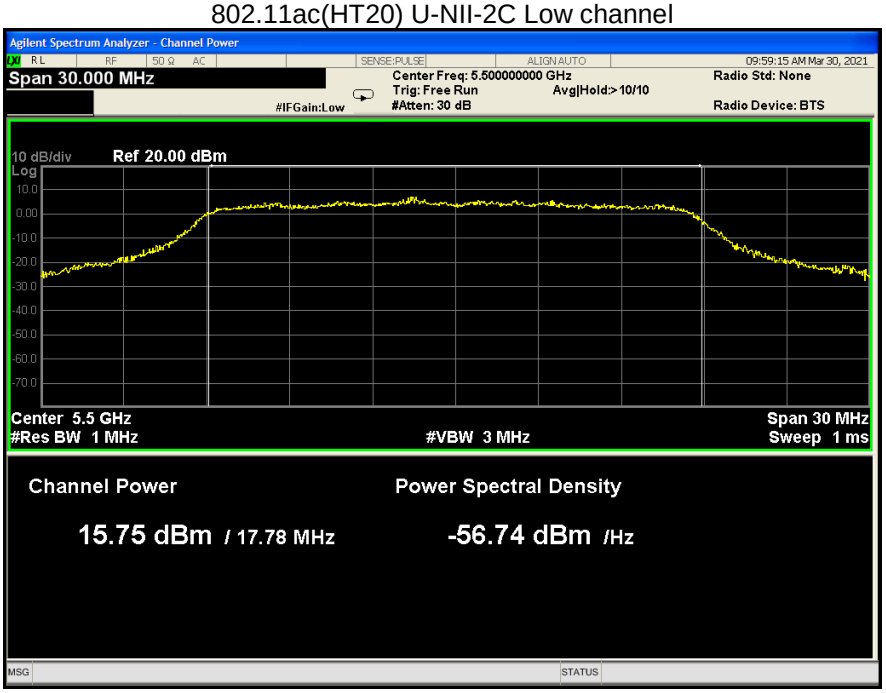
802.11n(HT20) U-NII-2C Middle channel



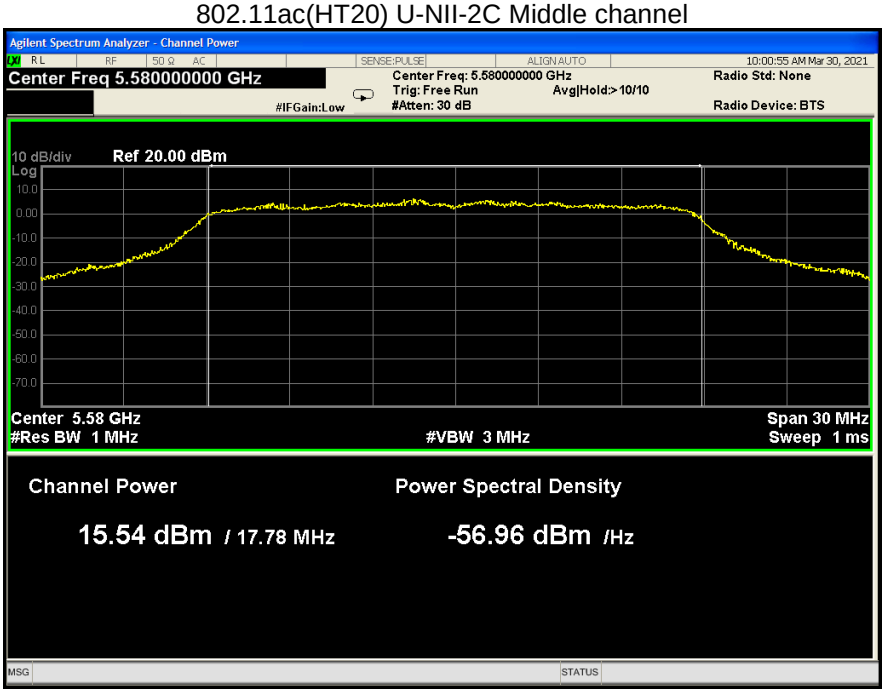

802.11n(HT20) U-NII-2C High channel



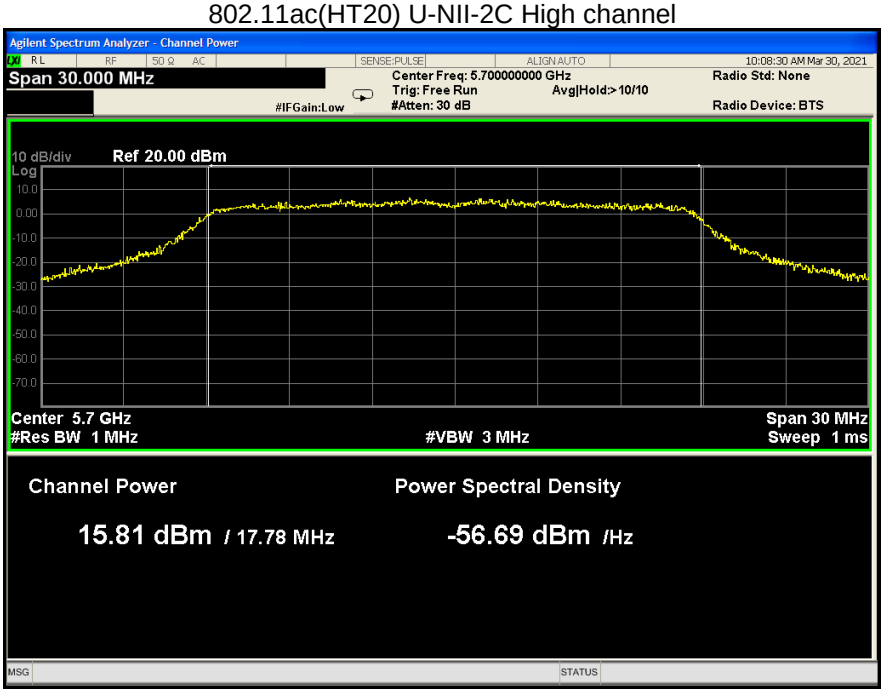
802.11ac(HT20) U-NII-2C Low channel



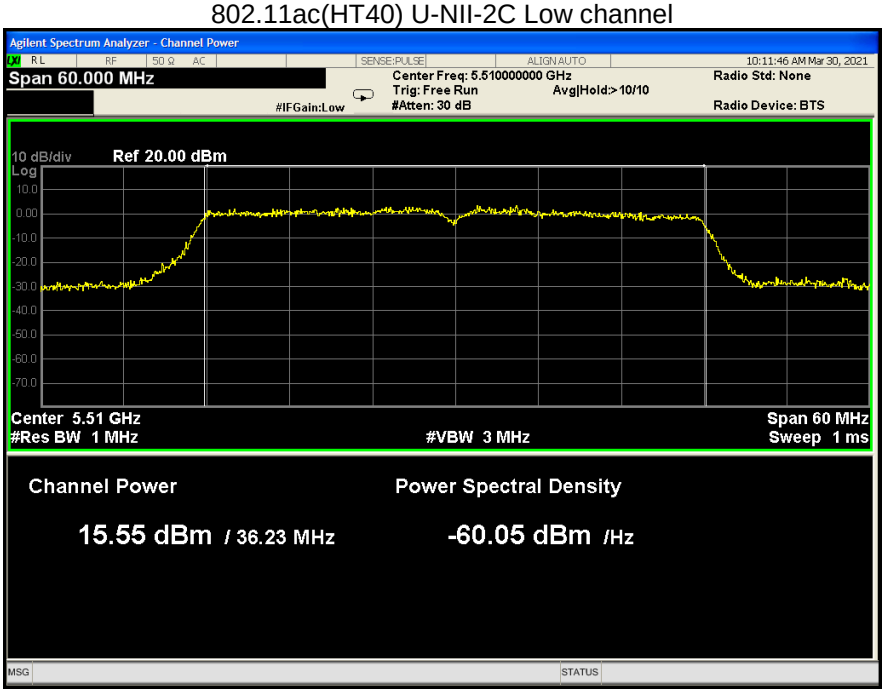

802.11ac(HT20) U-NII-2C Middle channel



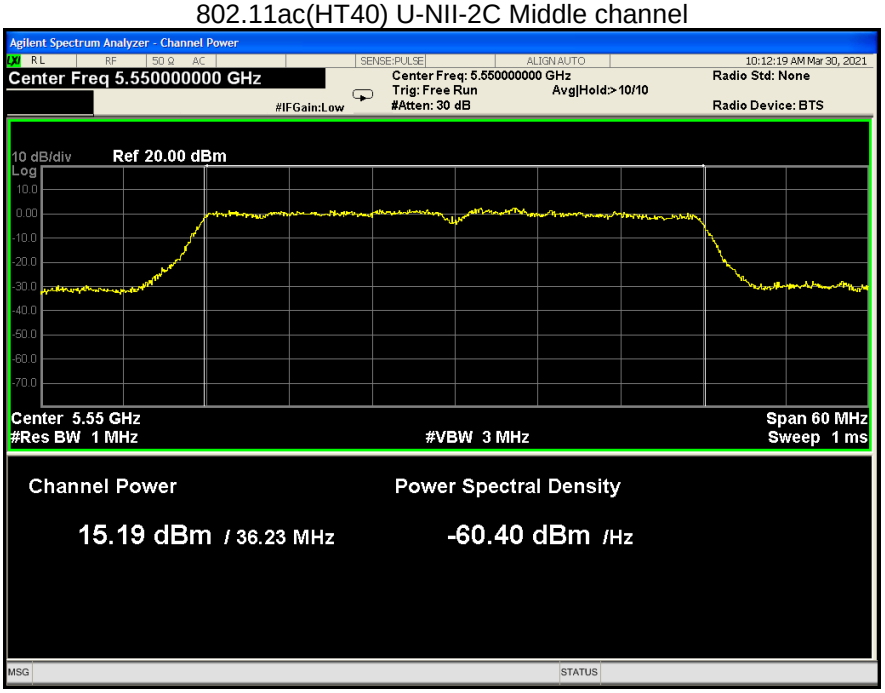
802.11ac(HT20) U-NII-2C High channel



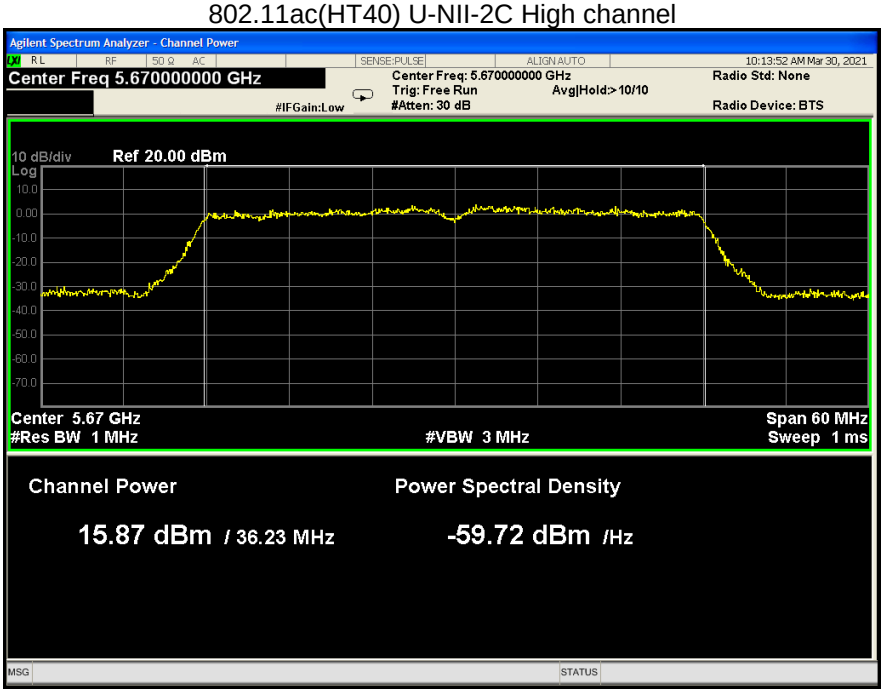

802.11ac(HT40) U-NII-2C Low channel



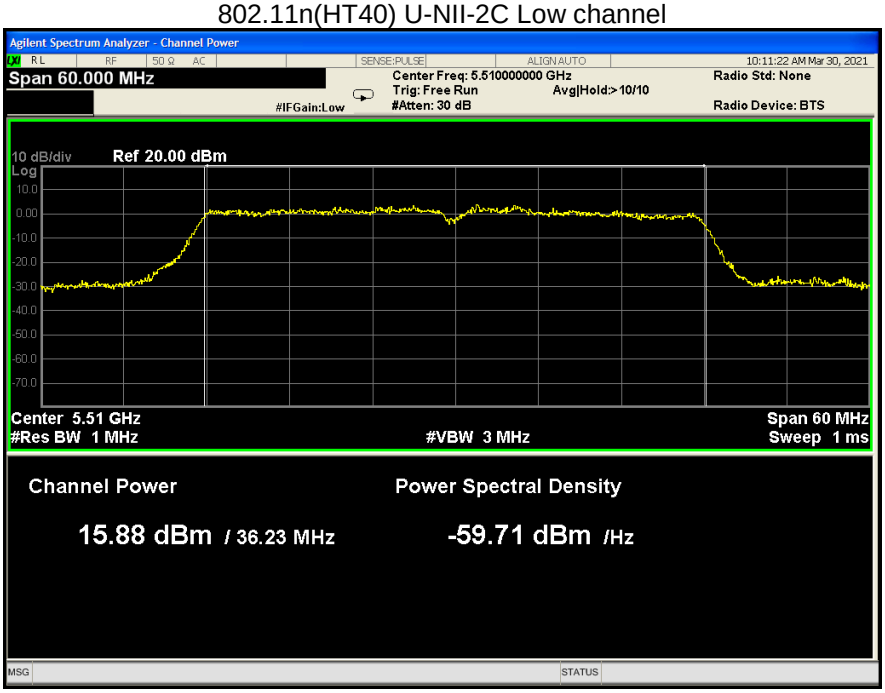
802.11ac(HT40) U-NII-2C Middle channel



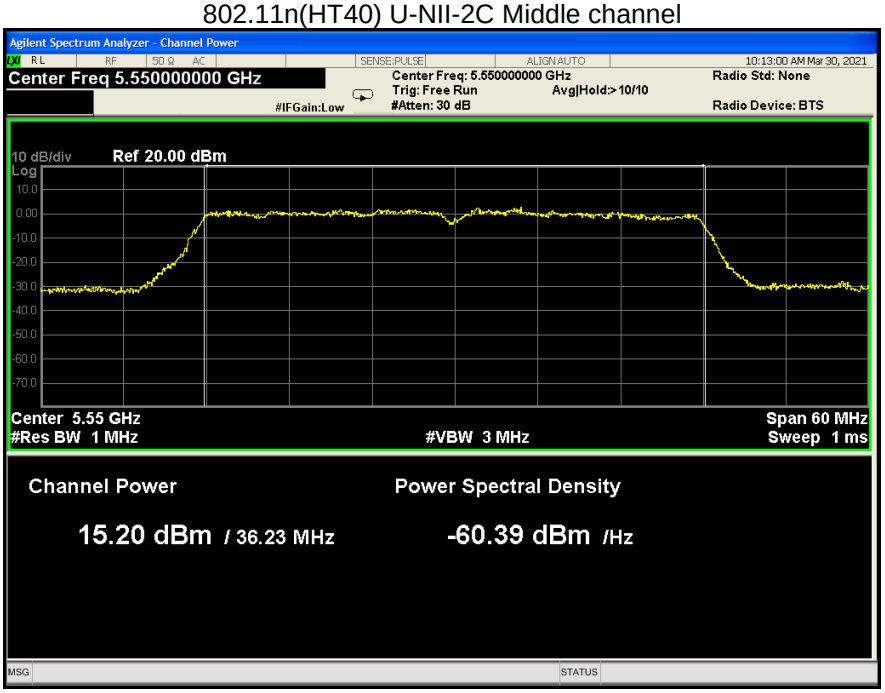

802.11ac(HT40) U-NII-2C High channel



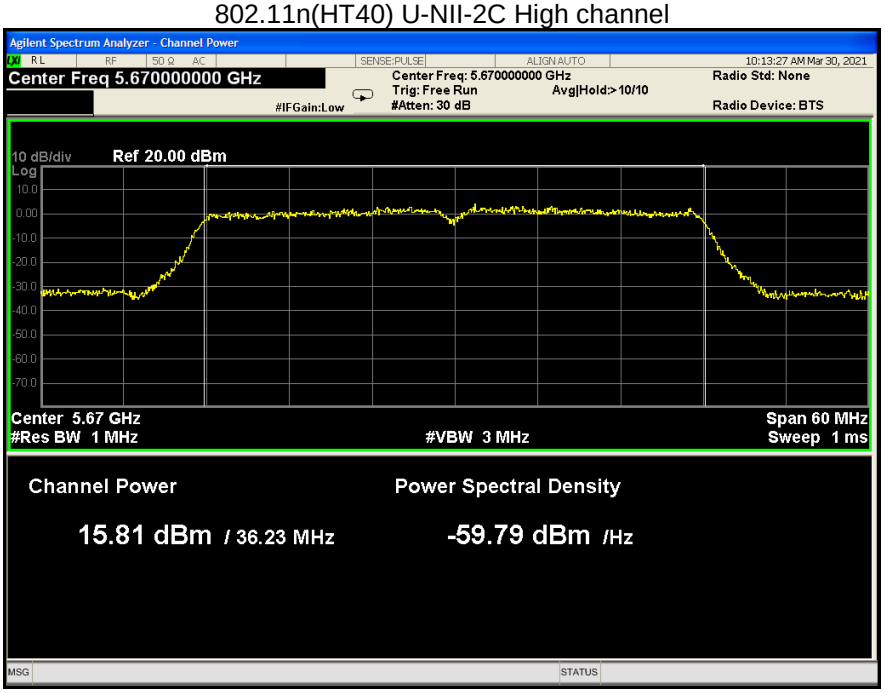
802.11n(HT40) U-NII-2C Low channel



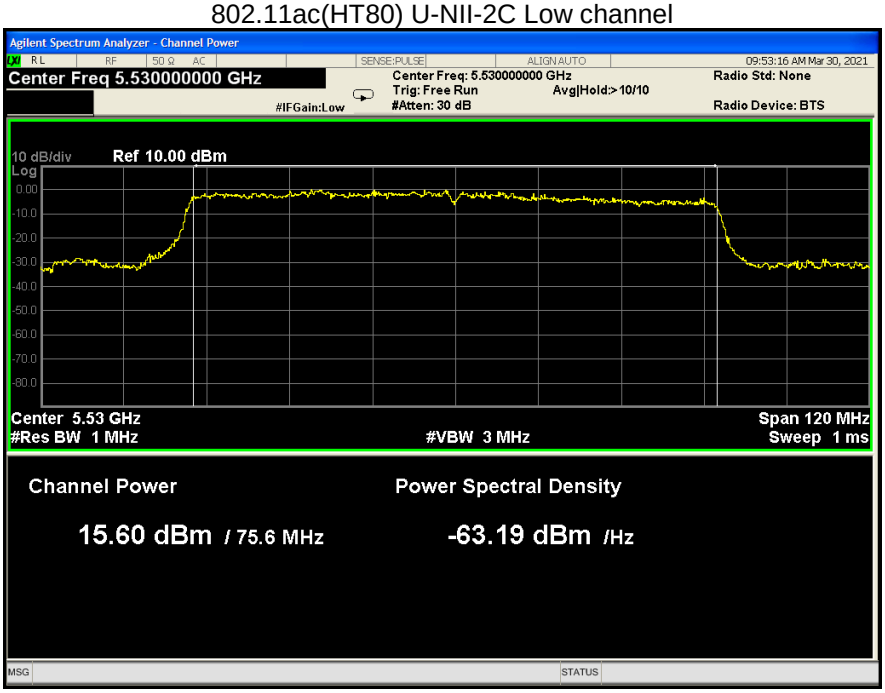

802.11n(HT40) U-NII-2C Middle channel



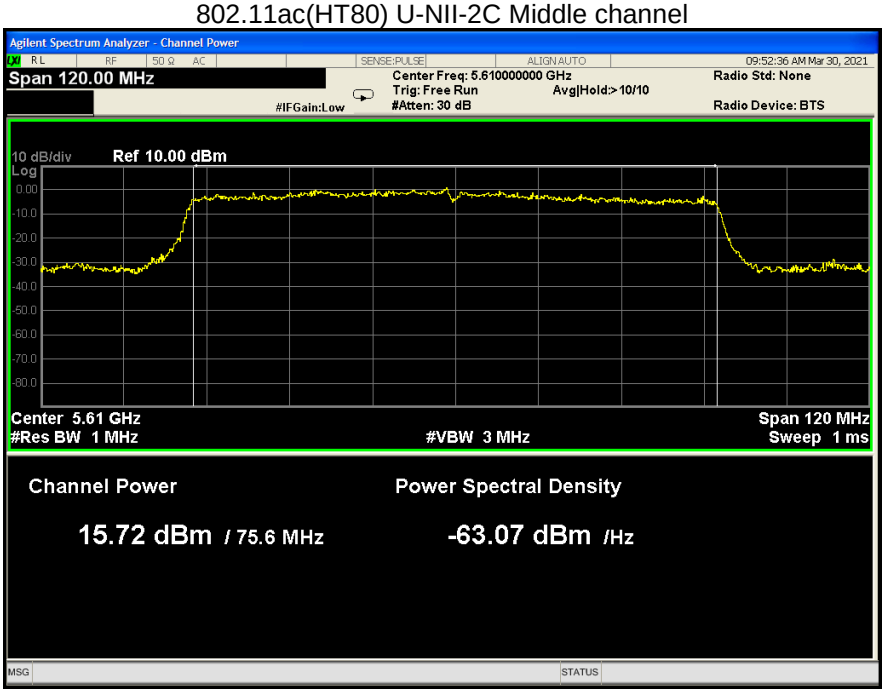
802.11n(HT40) U-NII-2C High channel



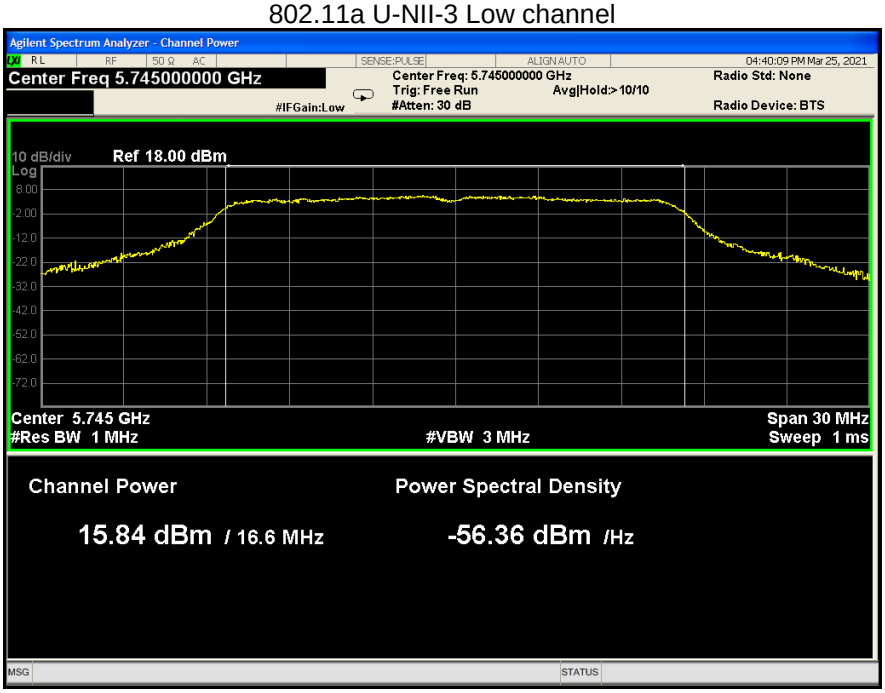

802.11ac(HT80) U-NII-2C Low channel



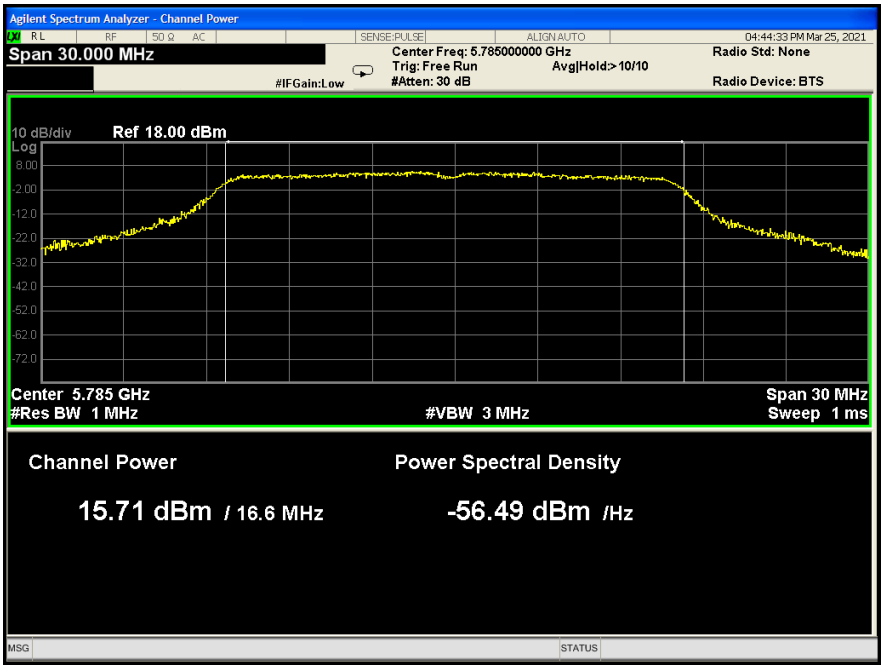
802.11ac(HT80) U-NII-2C Middle channel



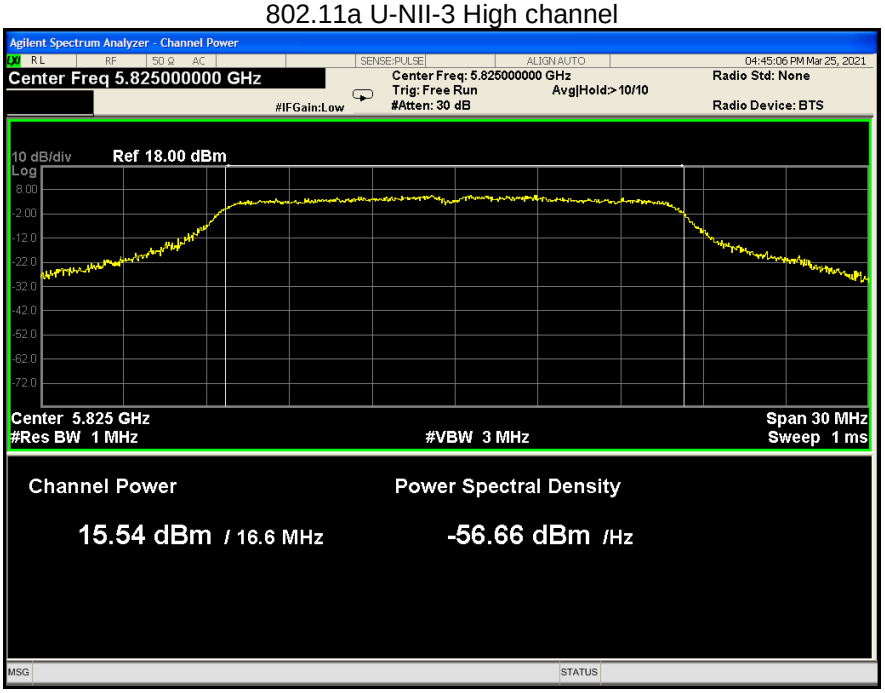

802.11a U-NII-3 Low channel



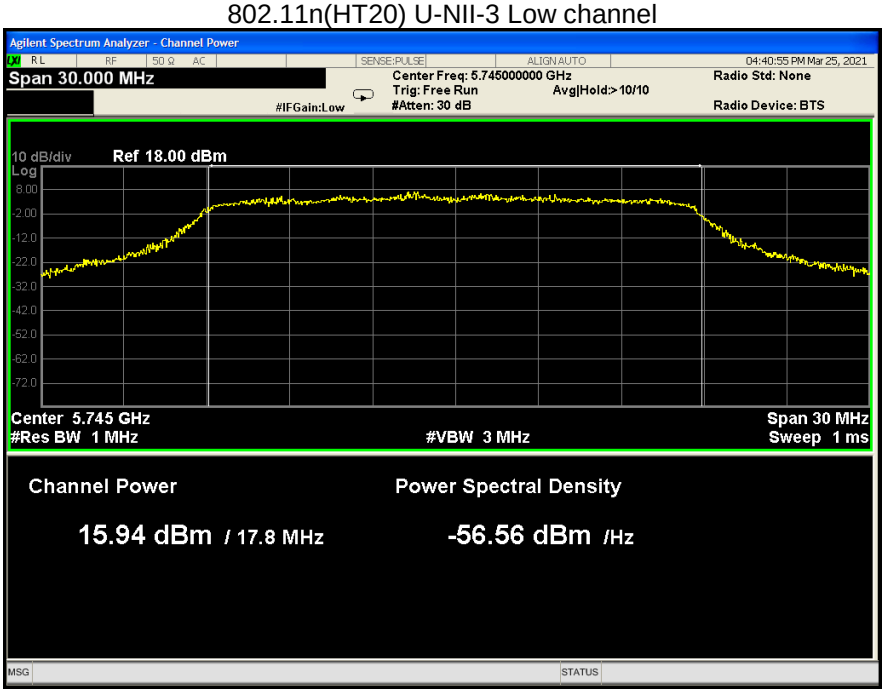
802.11a U-NII-3 Middle channel



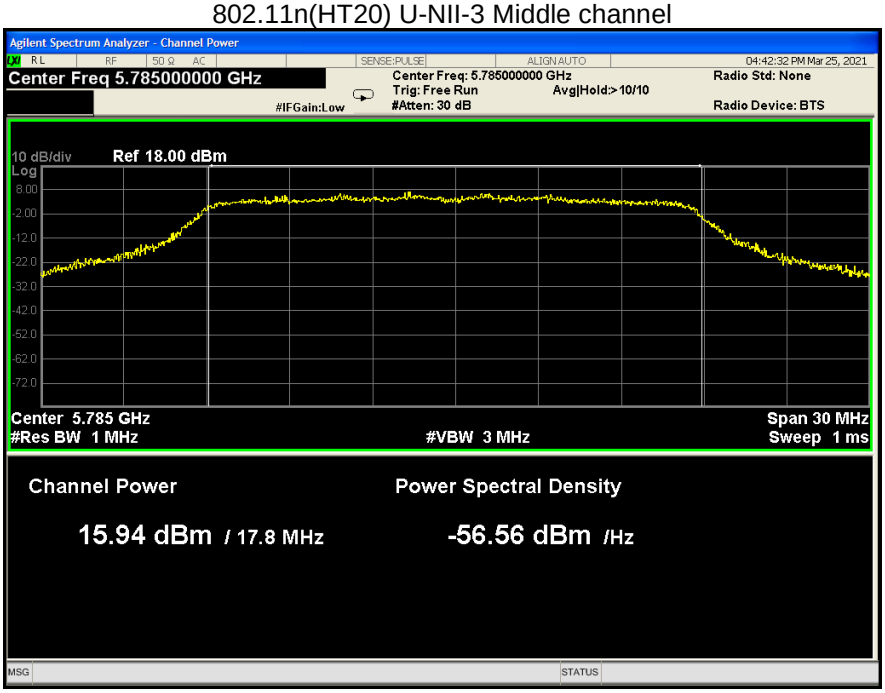

802.11a U-NII-3 High channel



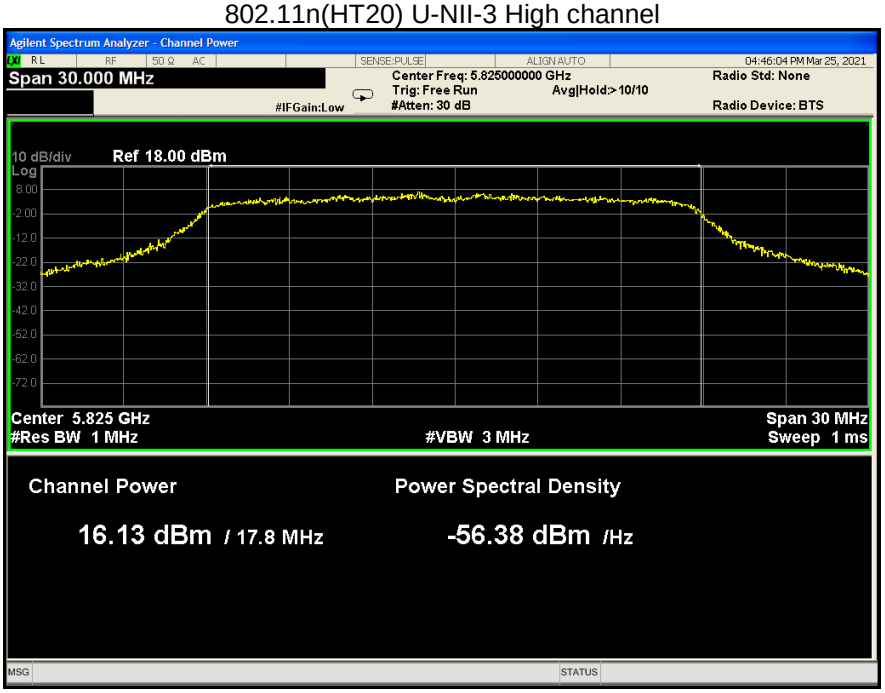
802.11n(HT20) U-NII-3 Low channel



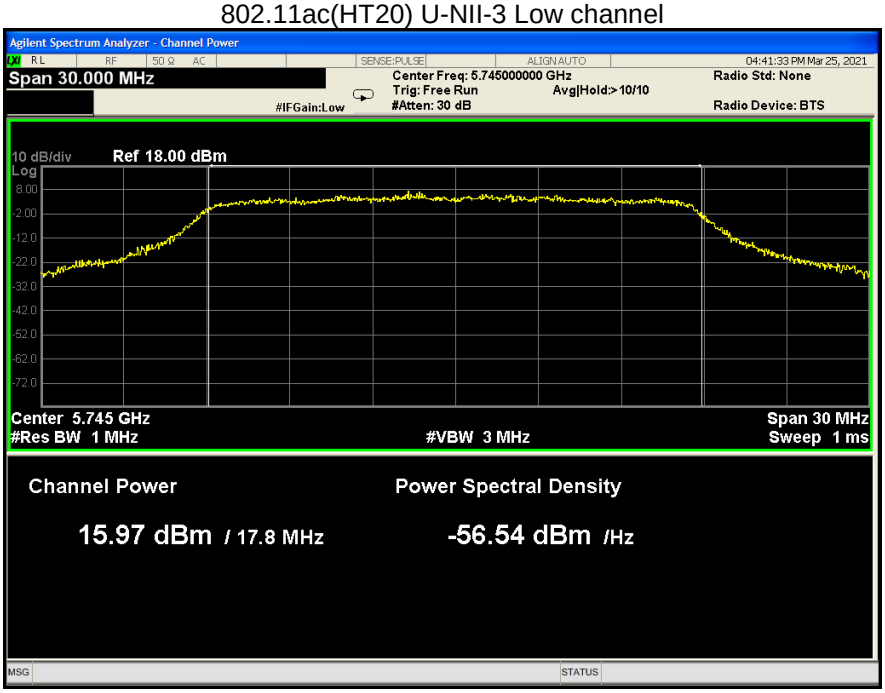

802.11n(HT20) U-NII-3 Middle channel



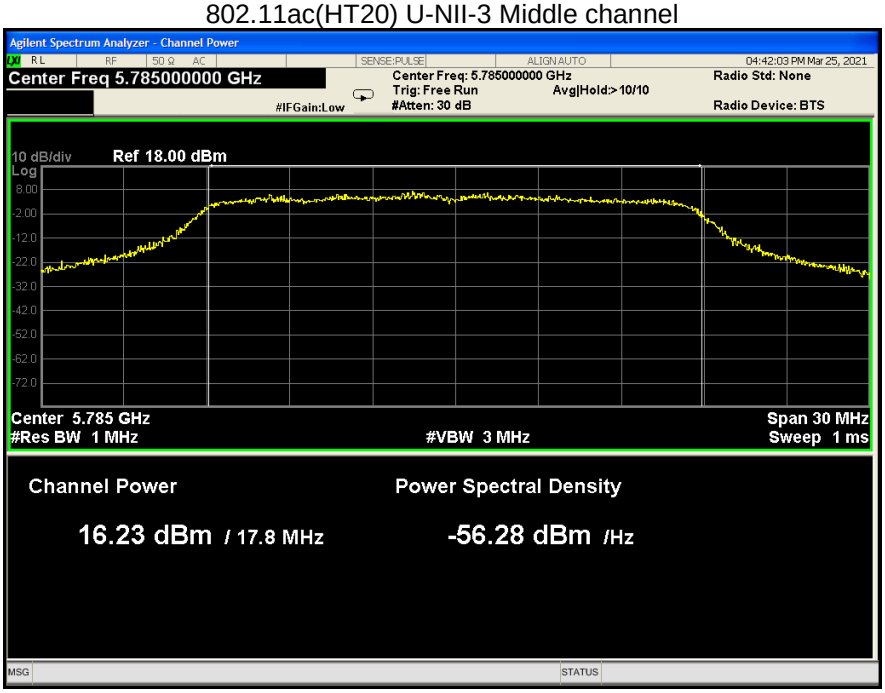
802.11n(HT20) U-NII-3 High channel



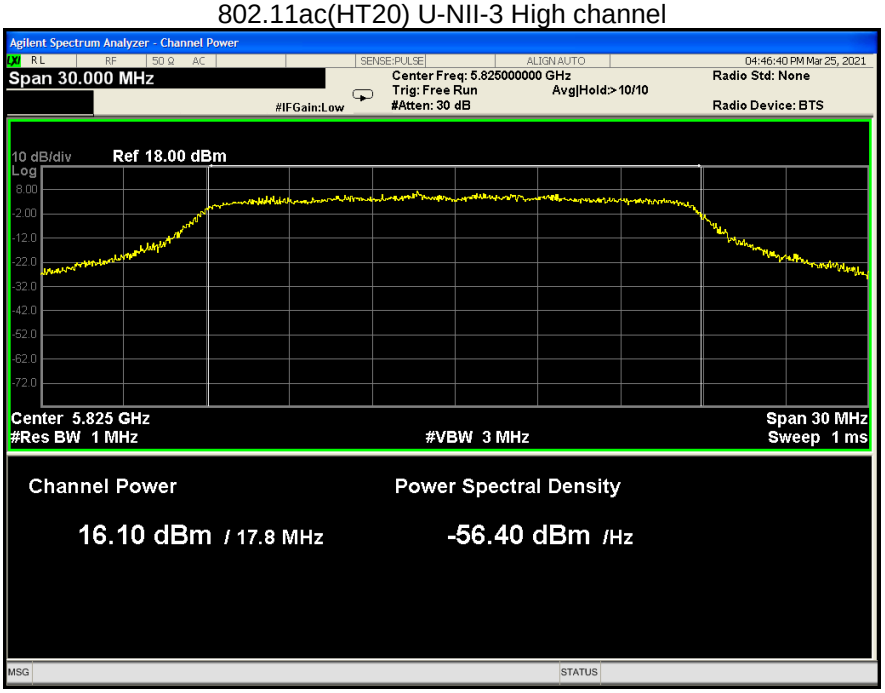

802.11ac(HT20) U-NII-3 Low channel



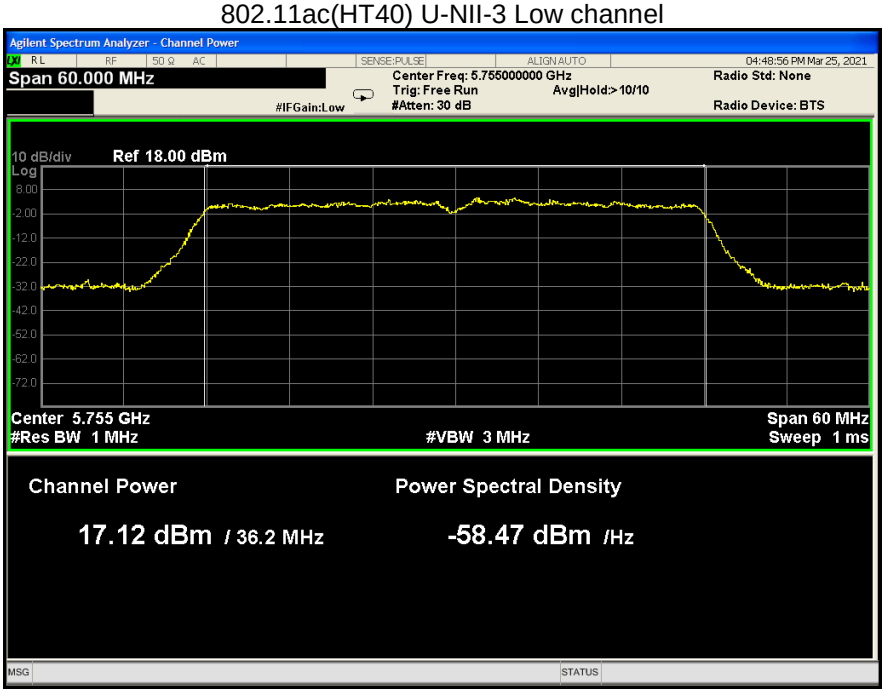
802.11ac(HT20) U-NII-3 Middle channel



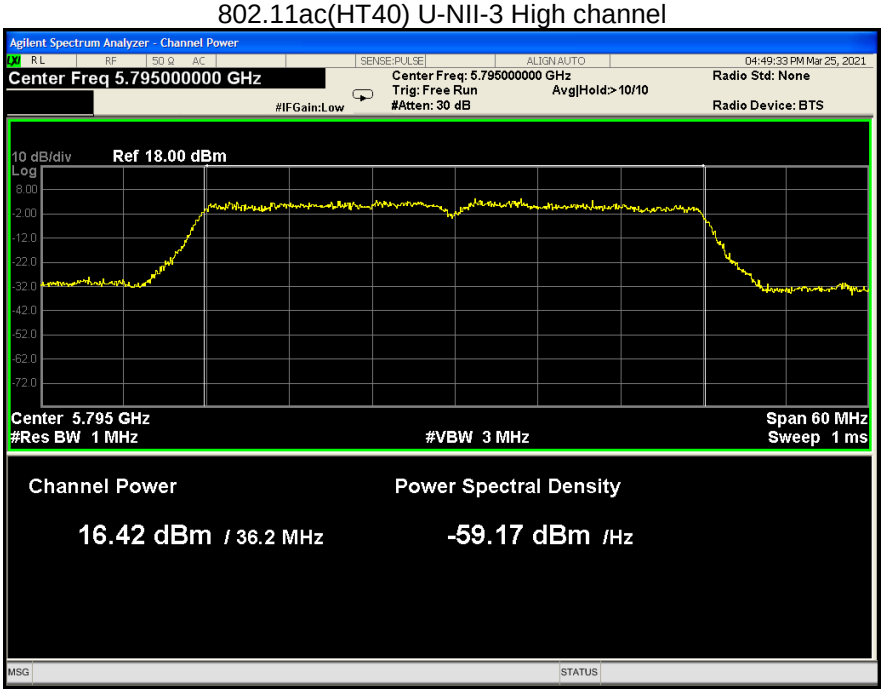

802.11ac(HT20) U-NII-3 High channel



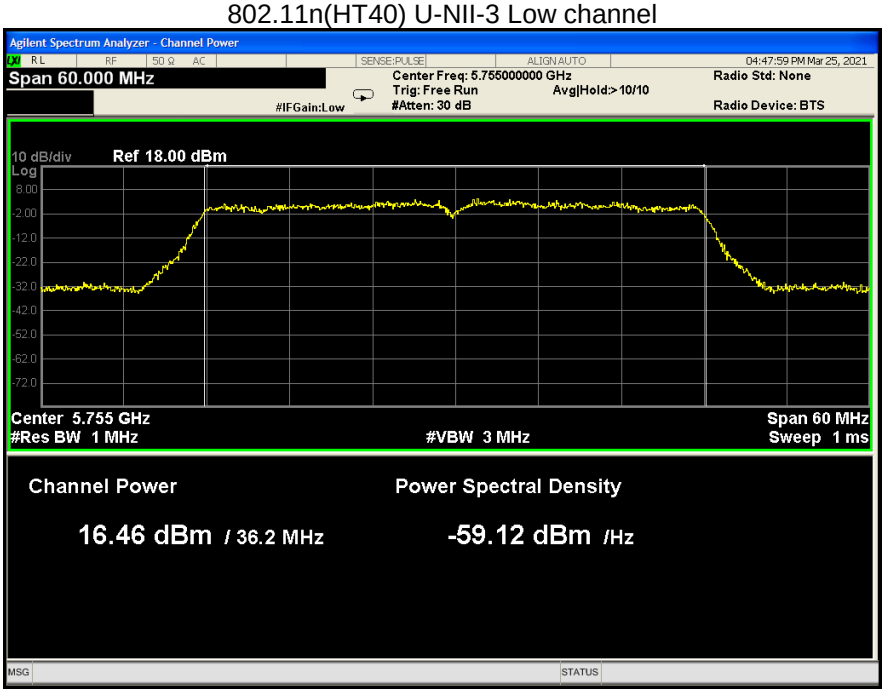
802.11ac(HT40) U-NII-3 Low channel



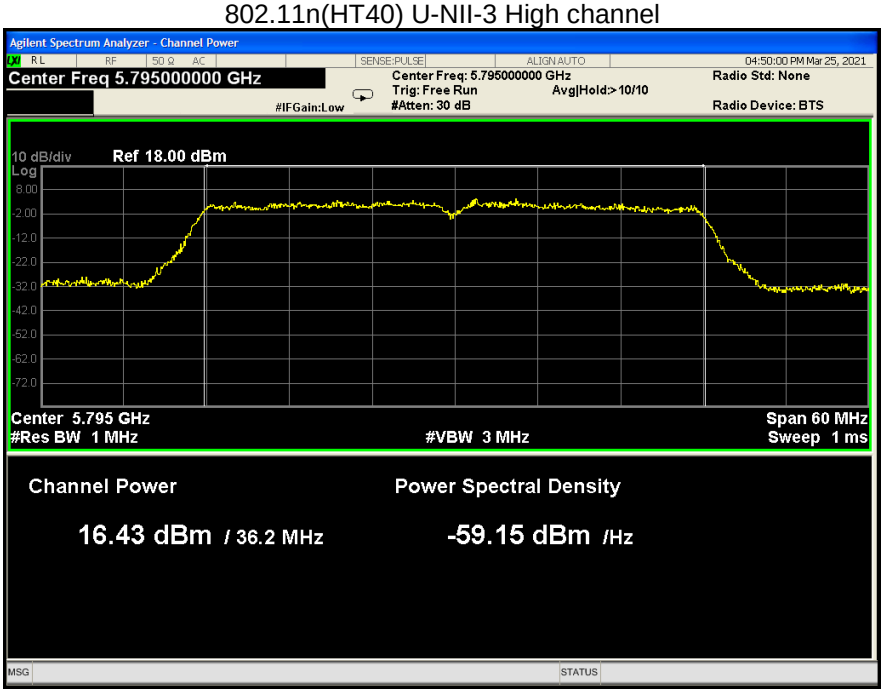

802.11ac(HT40) U-NII-3 High channel



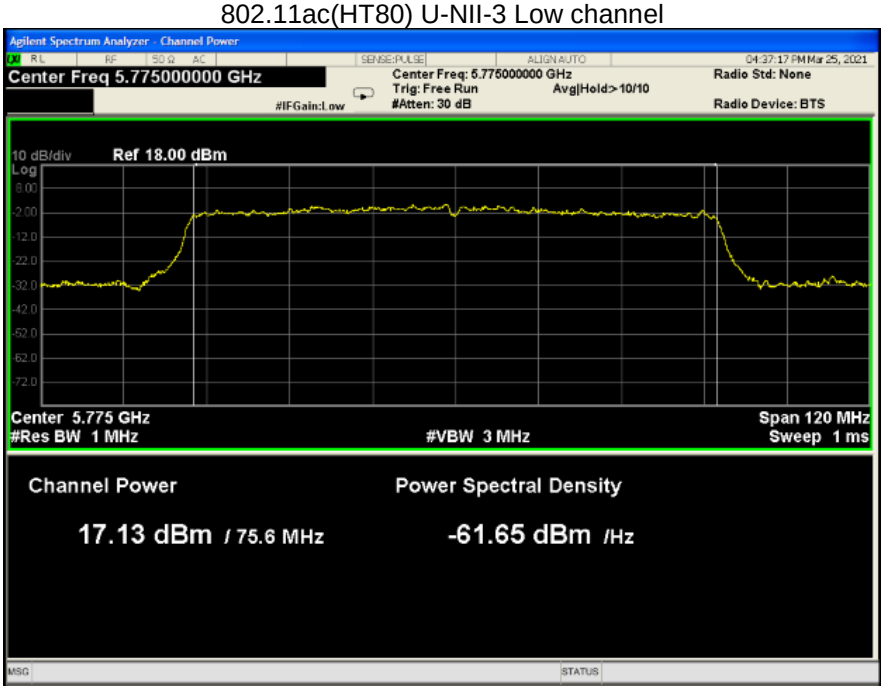
802.11n(HT40) U-NII-3 Low channel




802.11n(HT40) U-NII-3 High channel

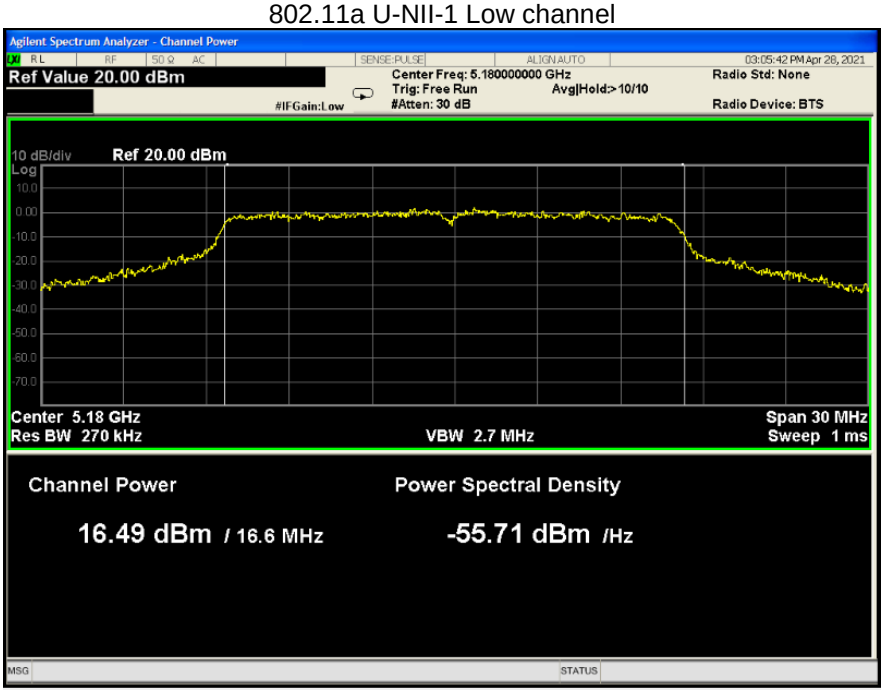


802.11ac(HT80) U-NII-3 Low channel

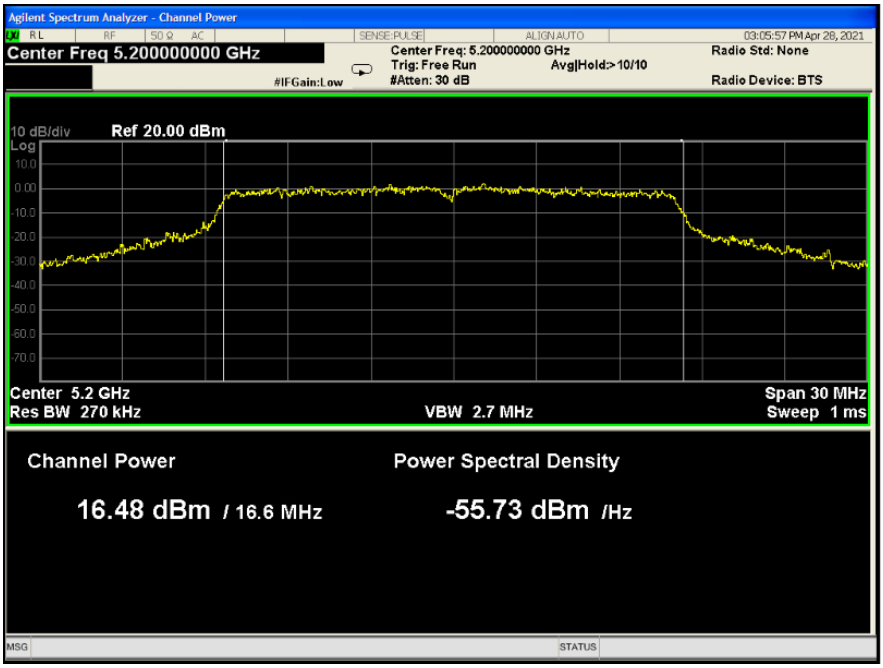



Antenna 1

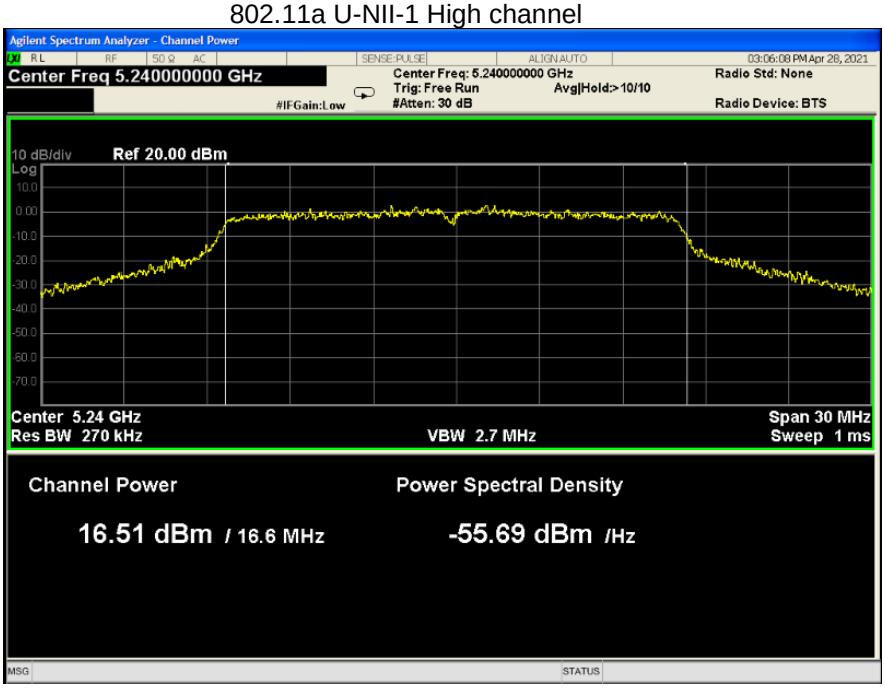
802.11a U-NII-1 Low channel



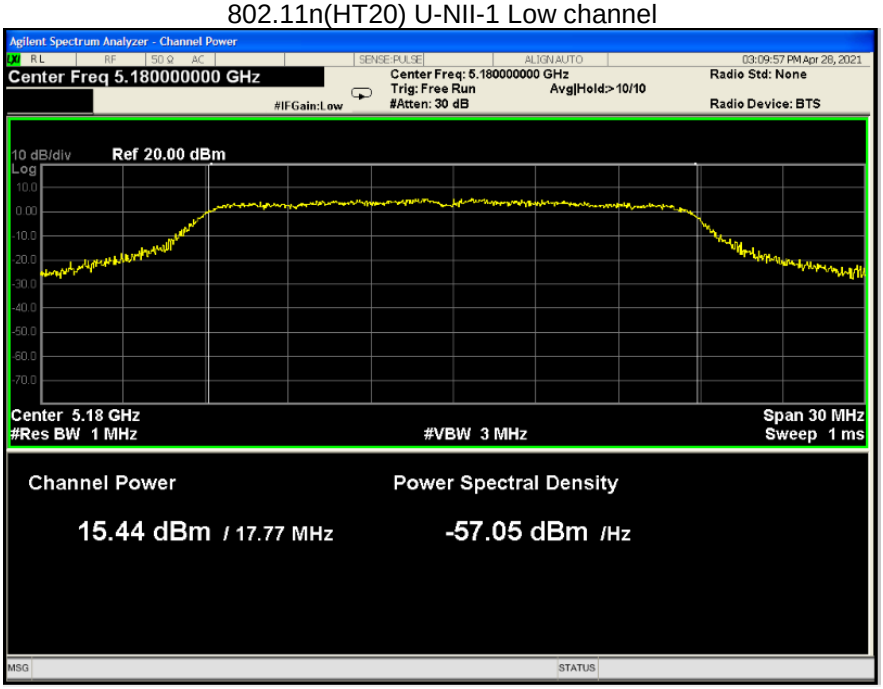
802.11a U-NII-1 Middle channel



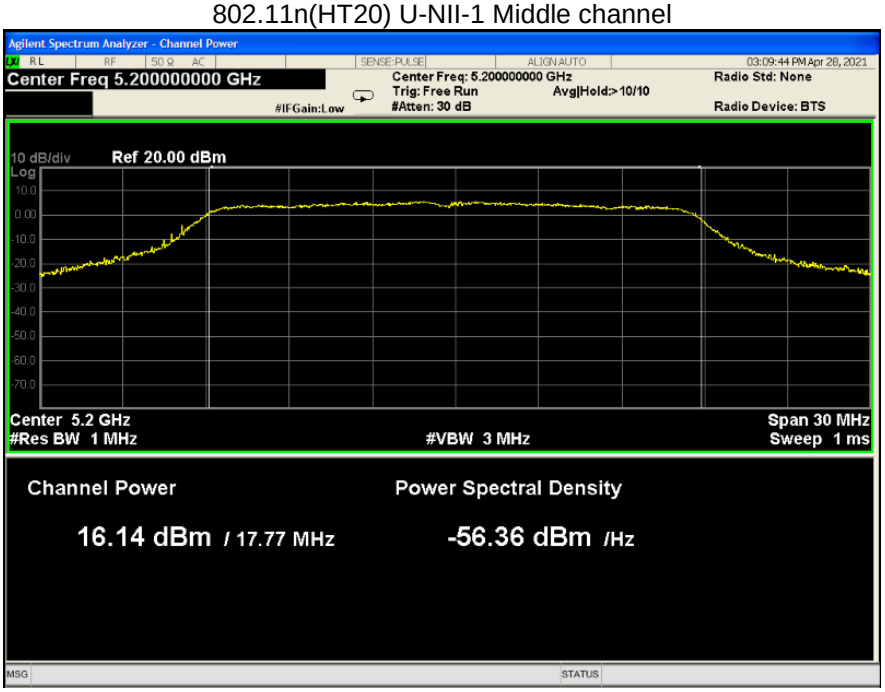

802.11a U-NII-1 High channel



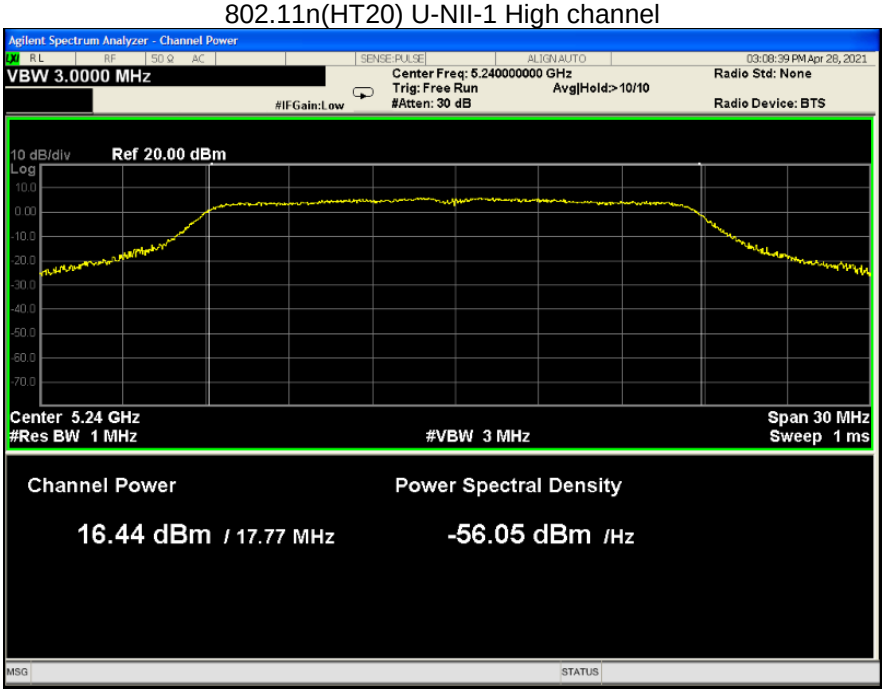
802.11n(HT20) U-NII-1 Low channel



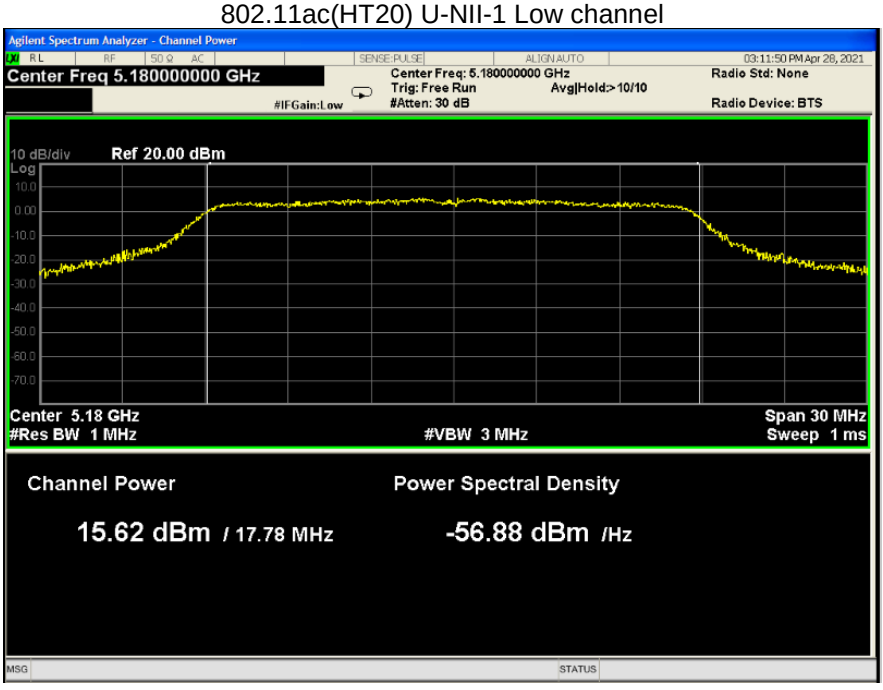

802.11n(HT20) U-NII-1 Middle channel



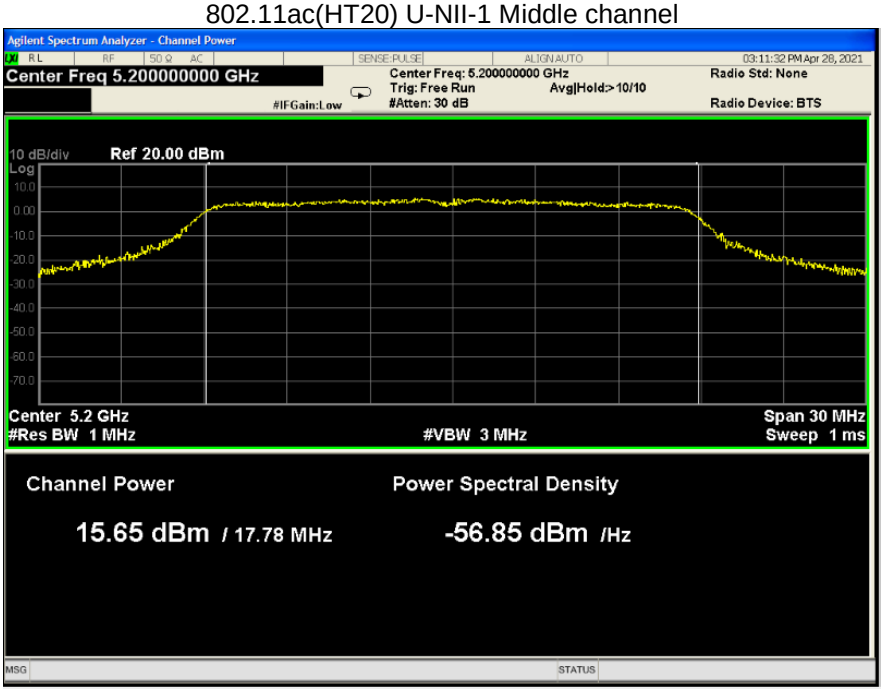
802.11n(HT20) U-NII-1 High channel



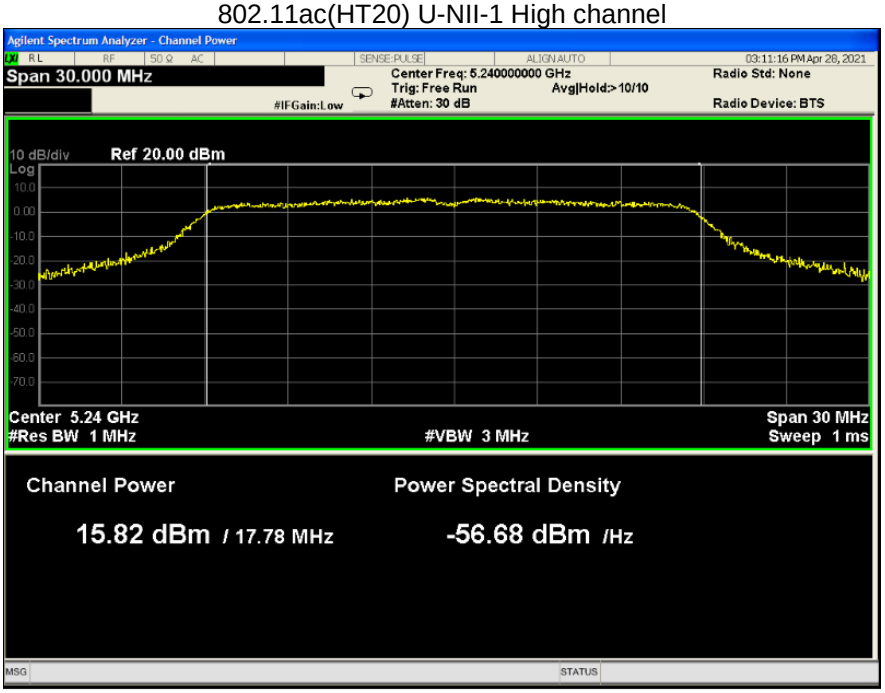

802.11ac(HT20) U-NII-1 Low channel



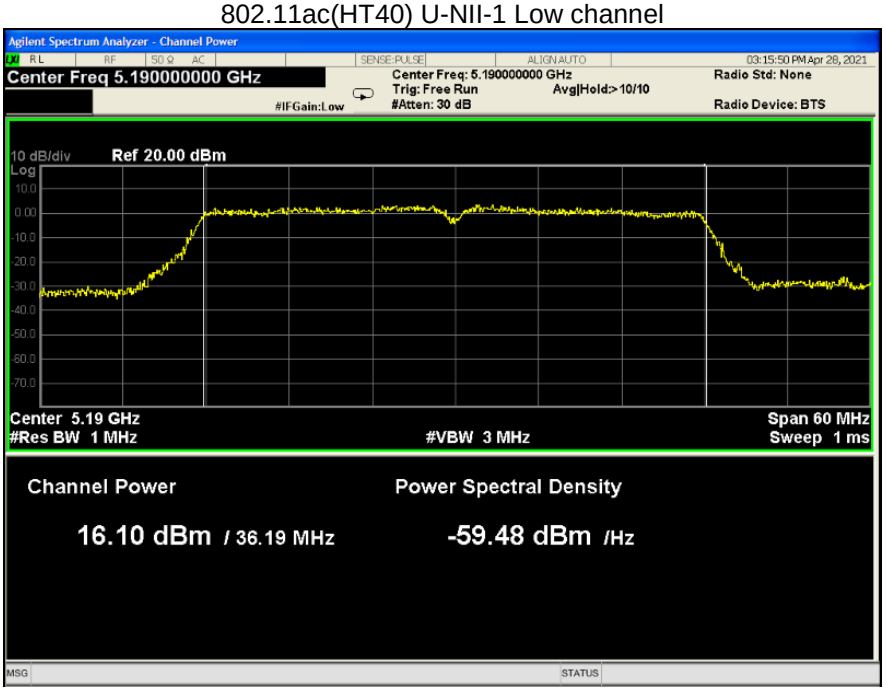
802.11ac(HT20) U-NII-1 Middle channel



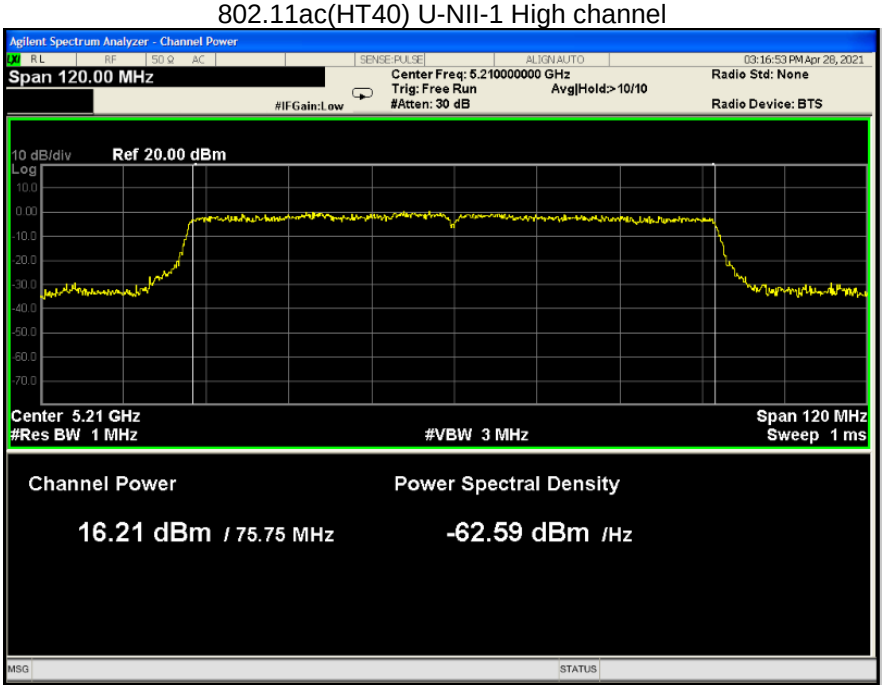

802.11ac(HT20) U-NII-1 High channel



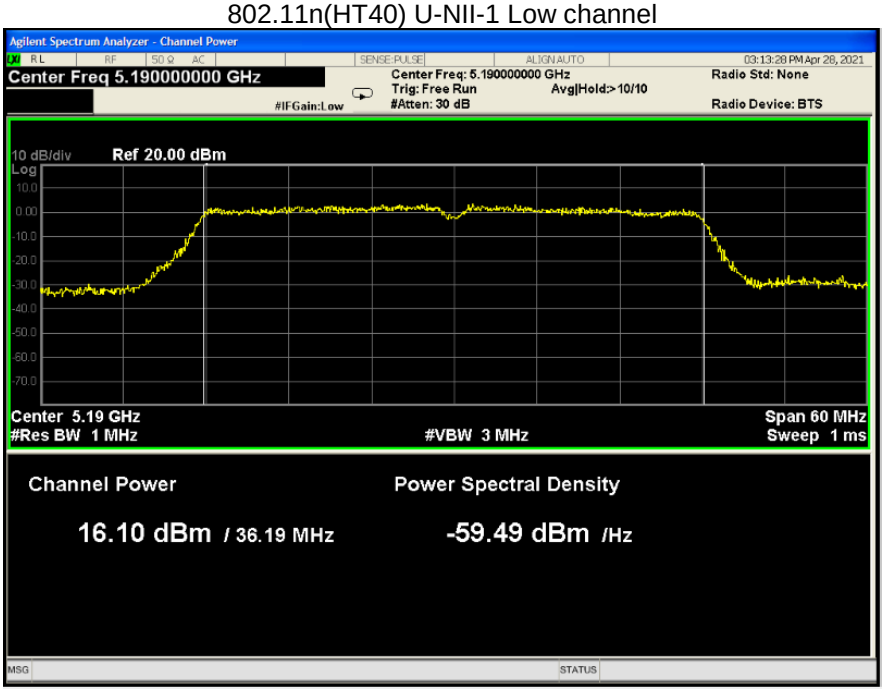
802.11ac(HT40) U-NII-1 Low channel



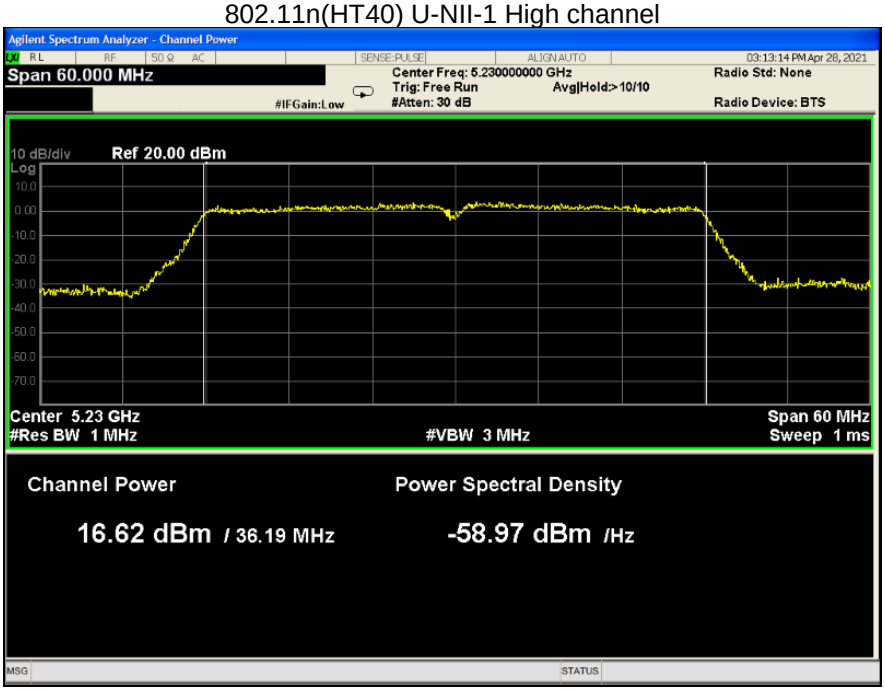

802.11ac(HT40) U-NII-1 High channel



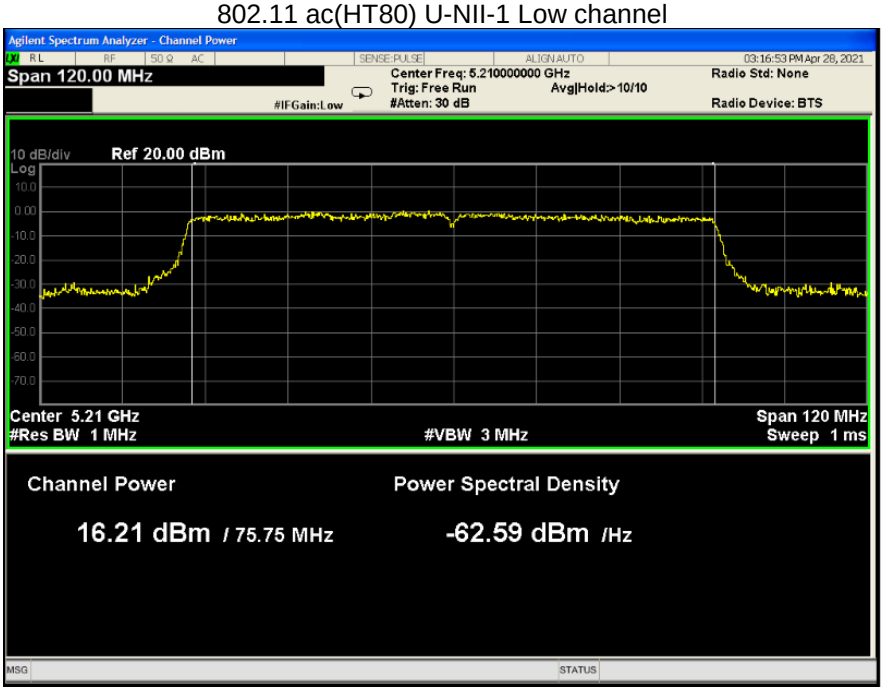
802.11n(HT40) U-NII-1 Low channel



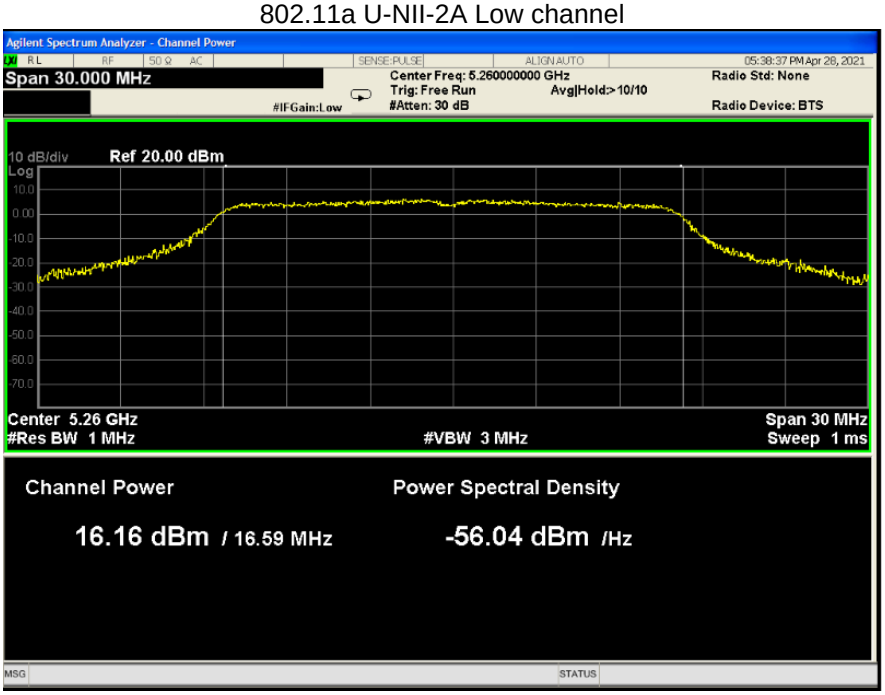

802.11n(HT40) U-NII-1 High channel



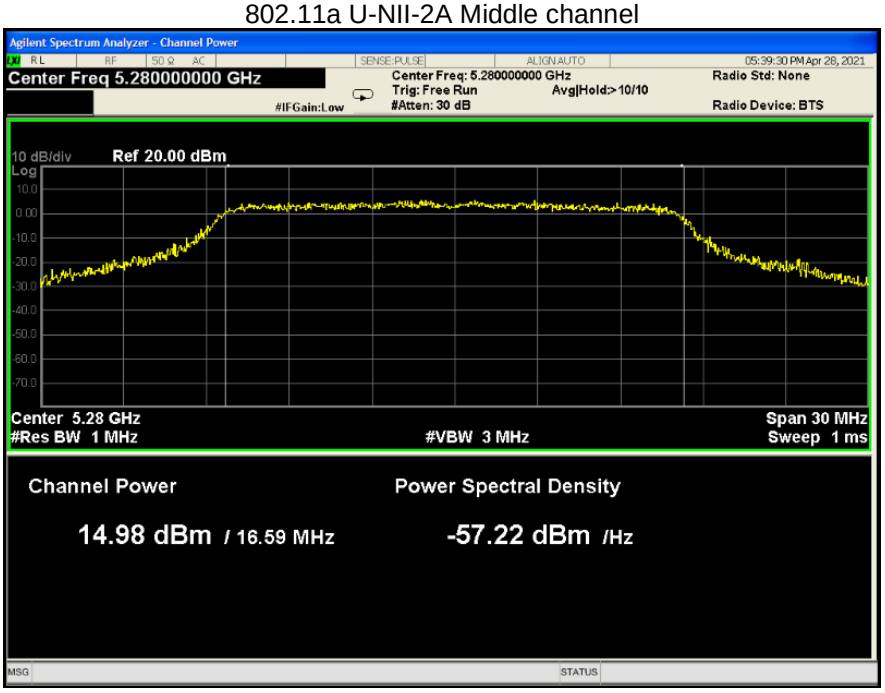
802.11 ac(HT80) U-NII-1 Low channel



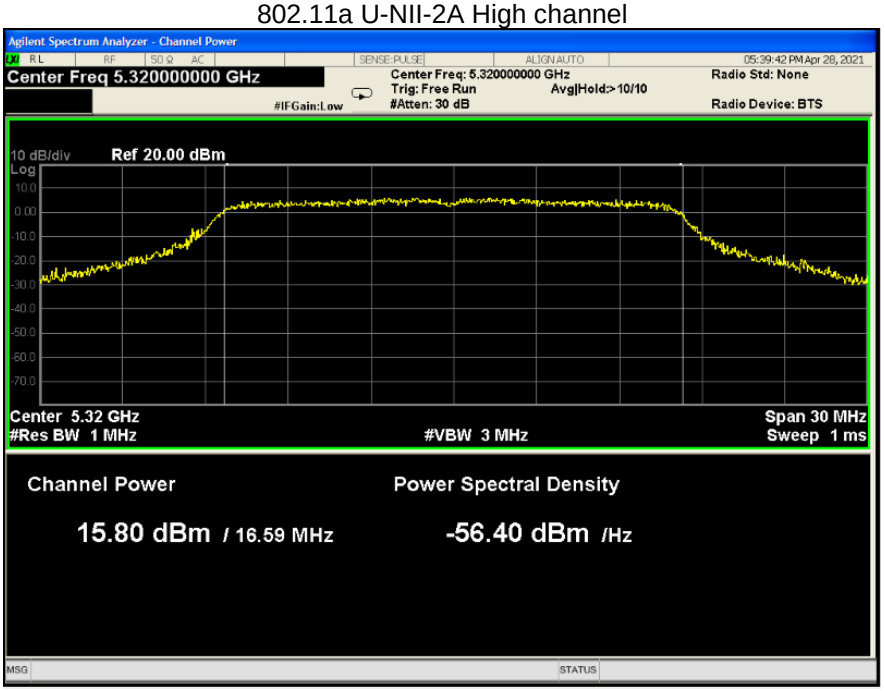

802.11a U-NII-2A Low channel



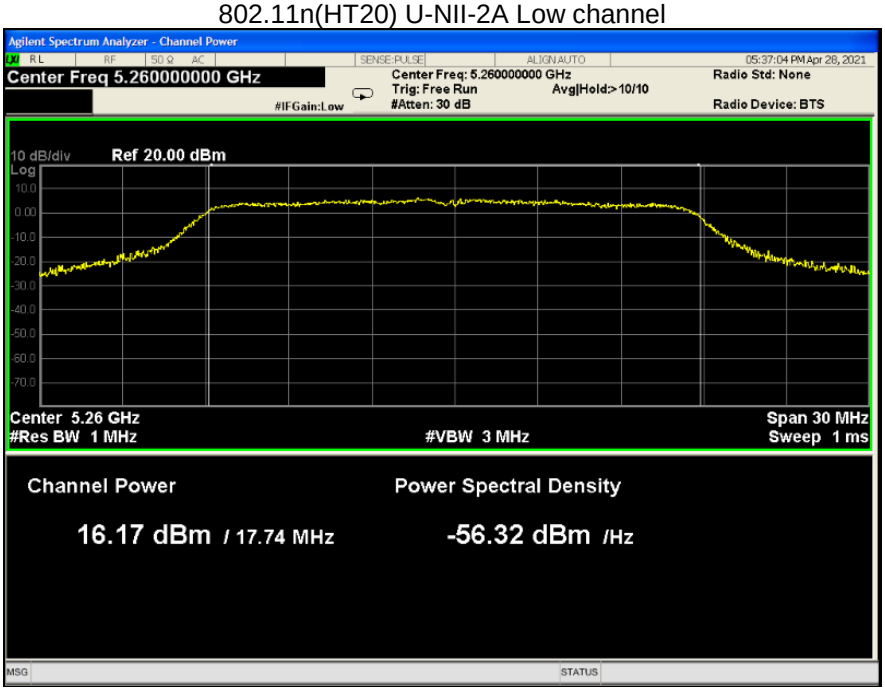
802.11a U-NII-2A Middle channel



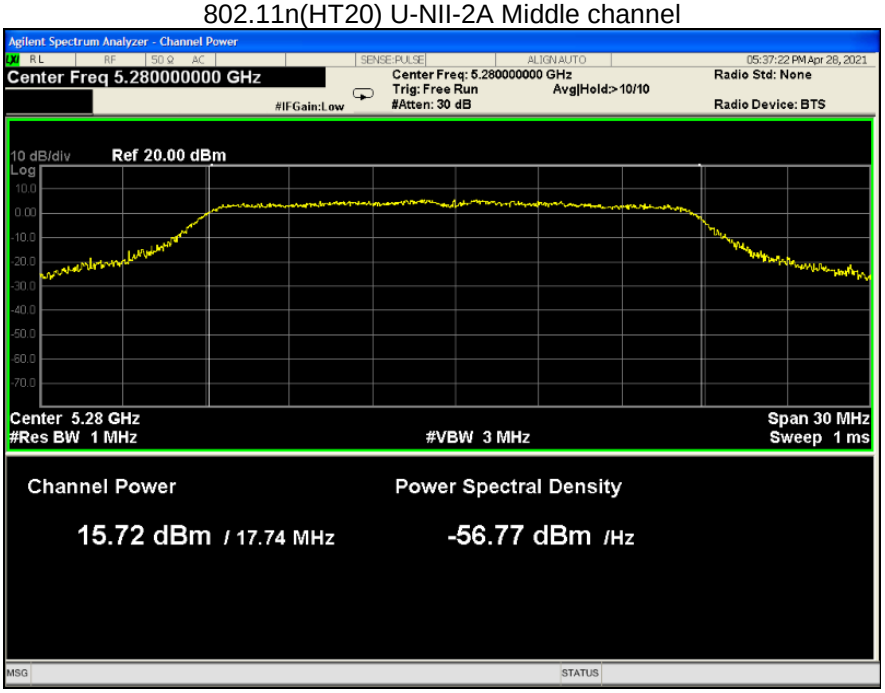

802.11a U-NII-2A High channel



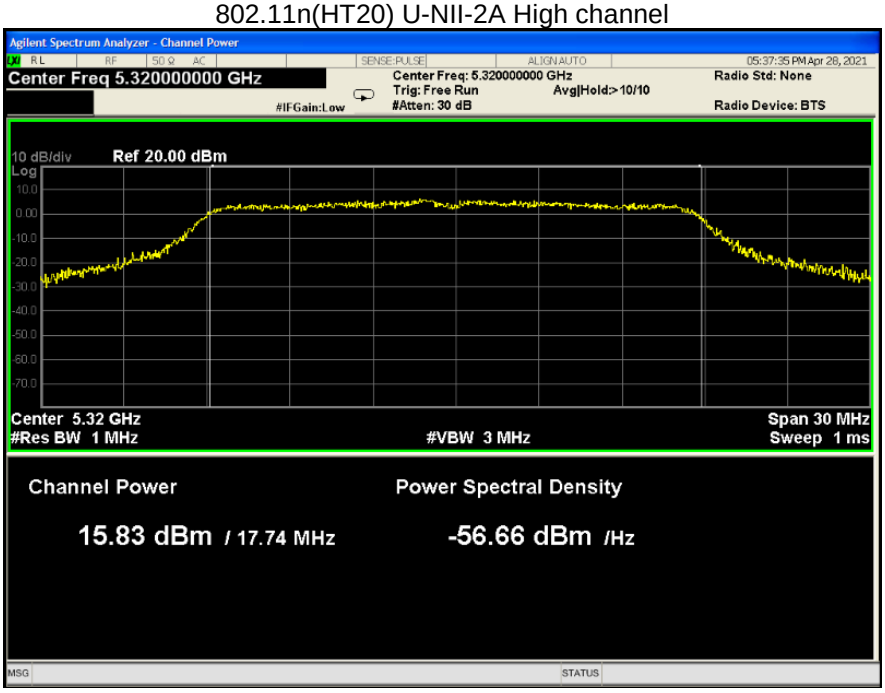
802.11n(HT20) U-NII-2A Low channel



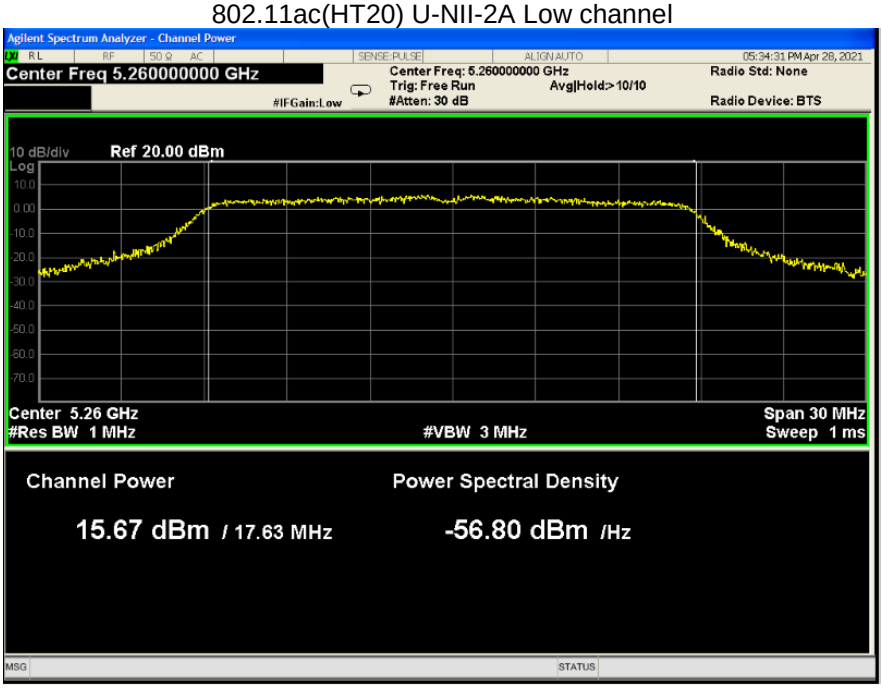

802.11n(HT20) U-NII-2A Middle channel



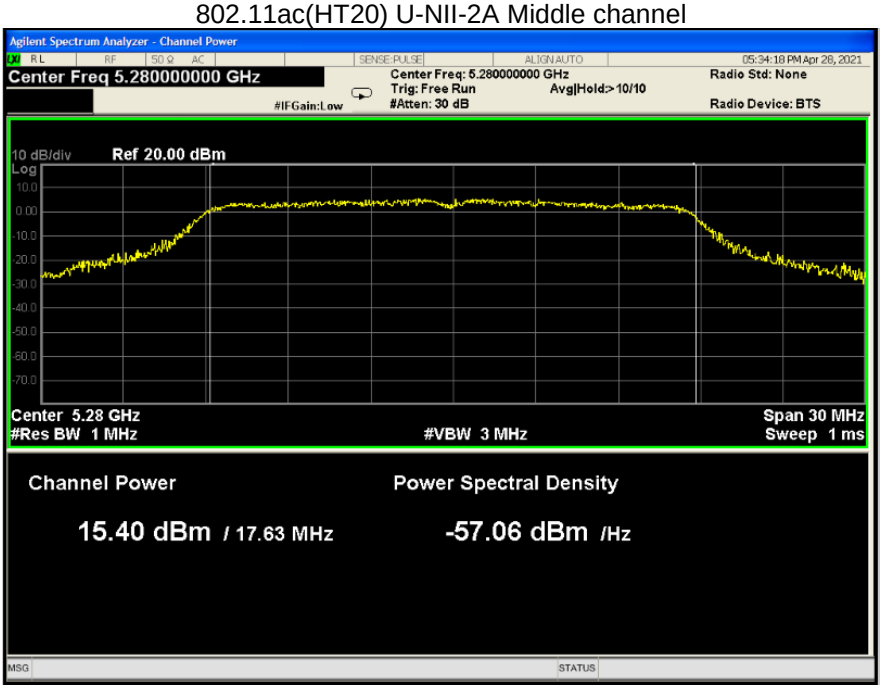
802.11n(HT20) U-NII-2A High channel



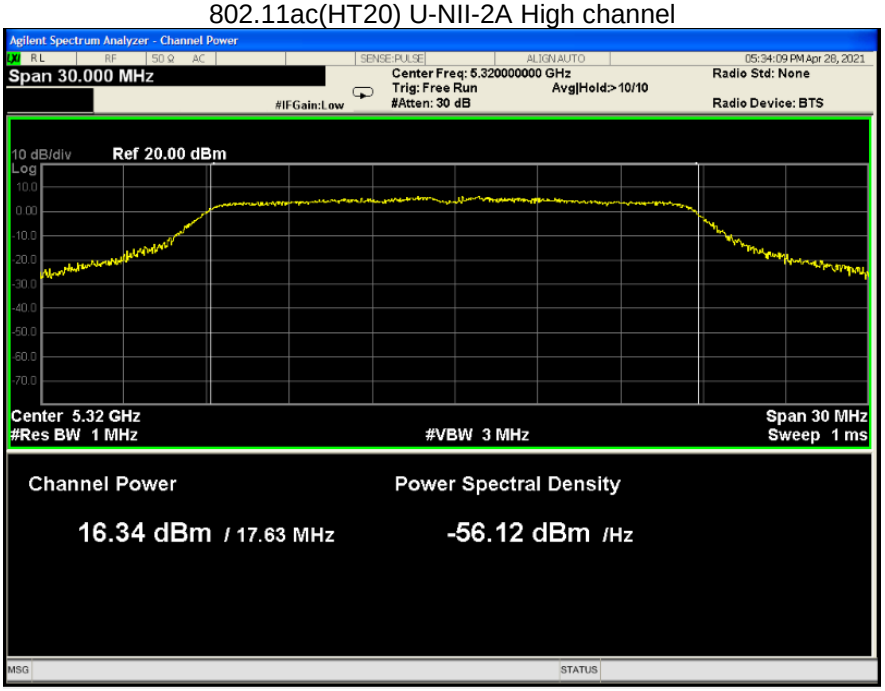

802.11ac(HT20) U-NII-2A Low channel



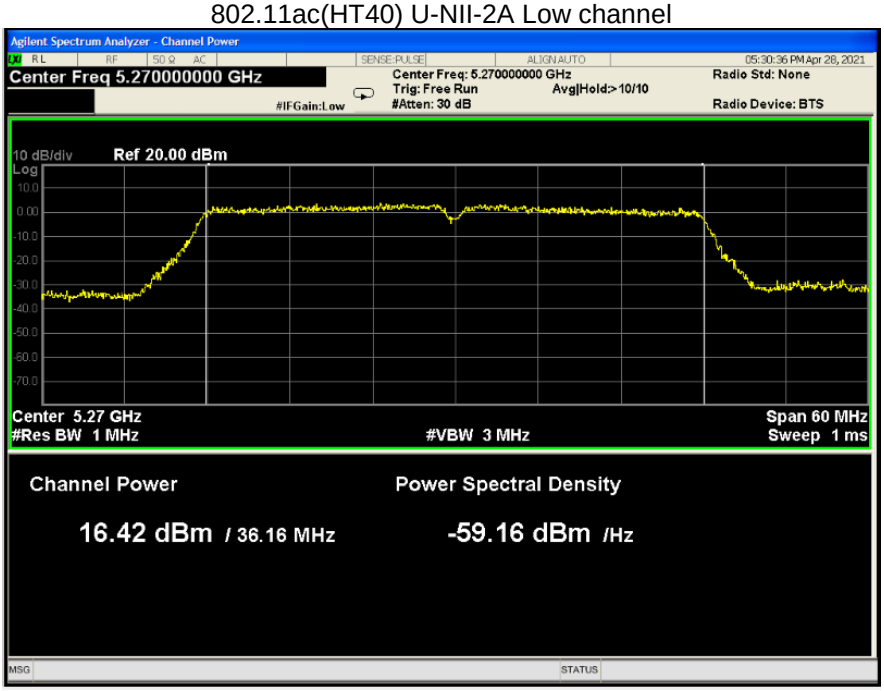
802.11ac(HT20) U-NII-2A Middle channel



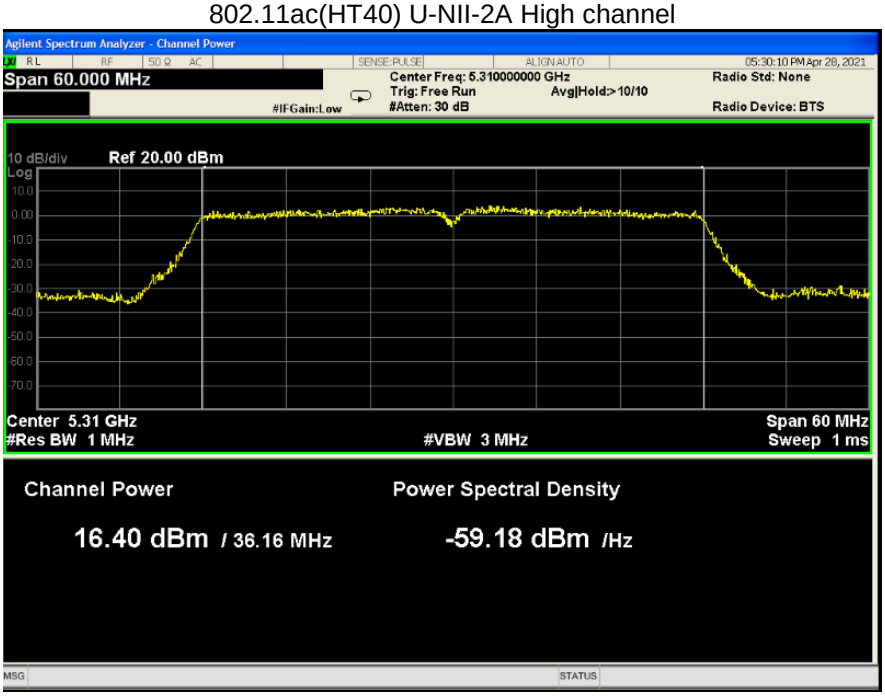

802.11ac(HT20) U-NII-2A High channel



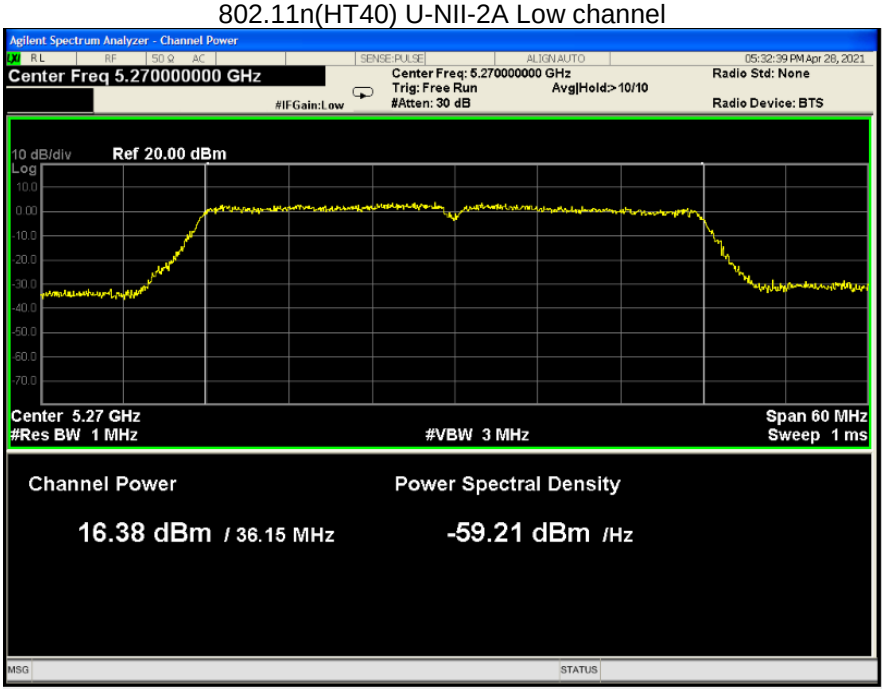
802.11ac(HT40) U-NII-2A Low channel



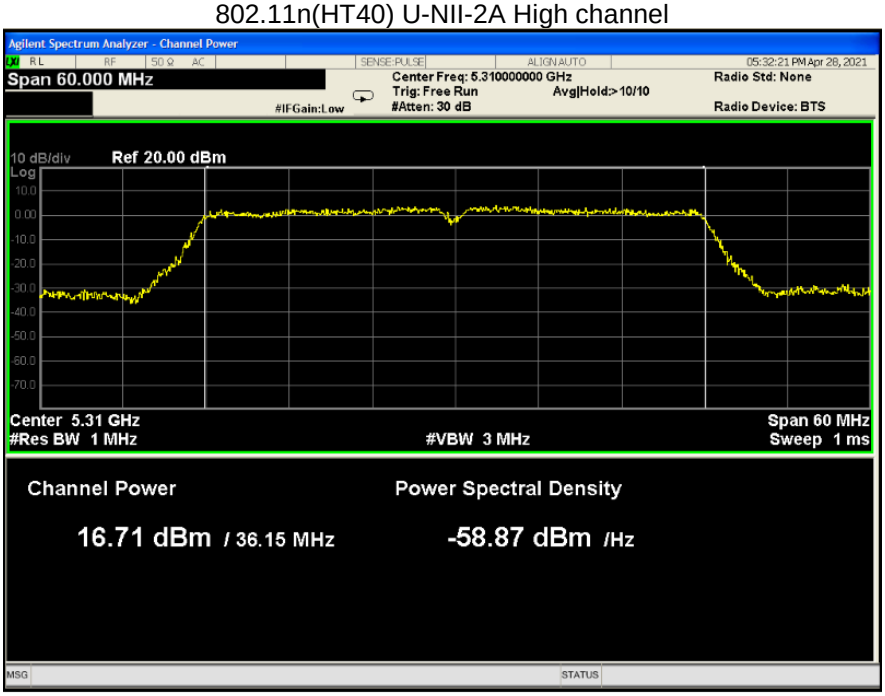

802.11ac(HT40) U-NII-2A High channel



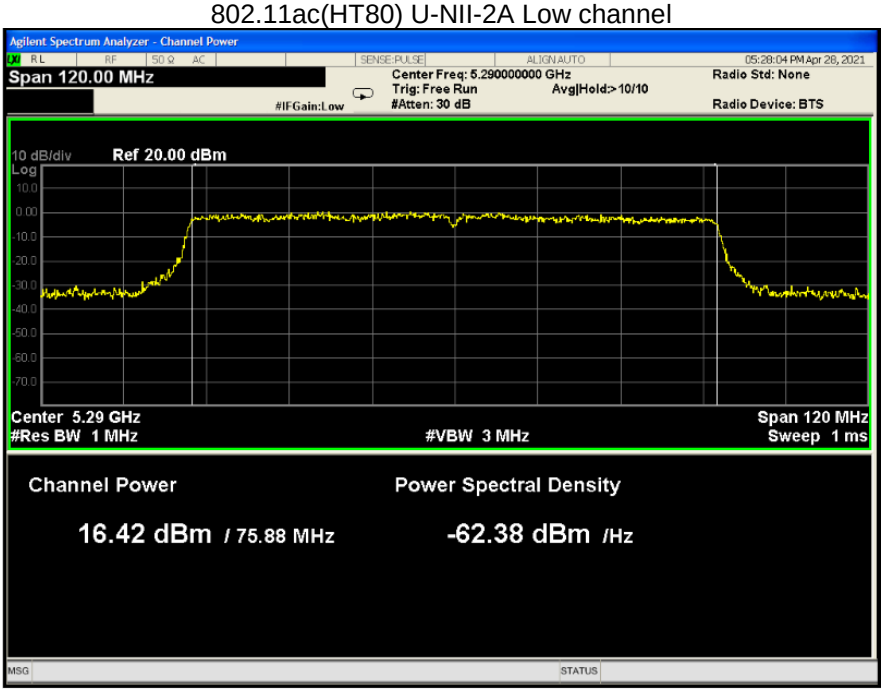
802.11n(HT40) U-NII-2A Low channel



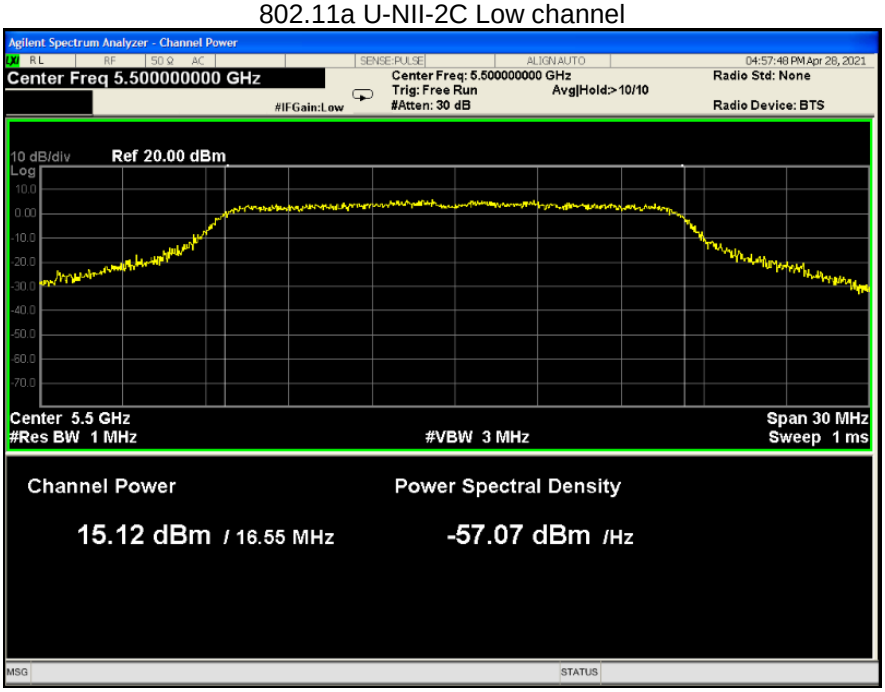

802.11n(HT40) U-NII-2A High channel



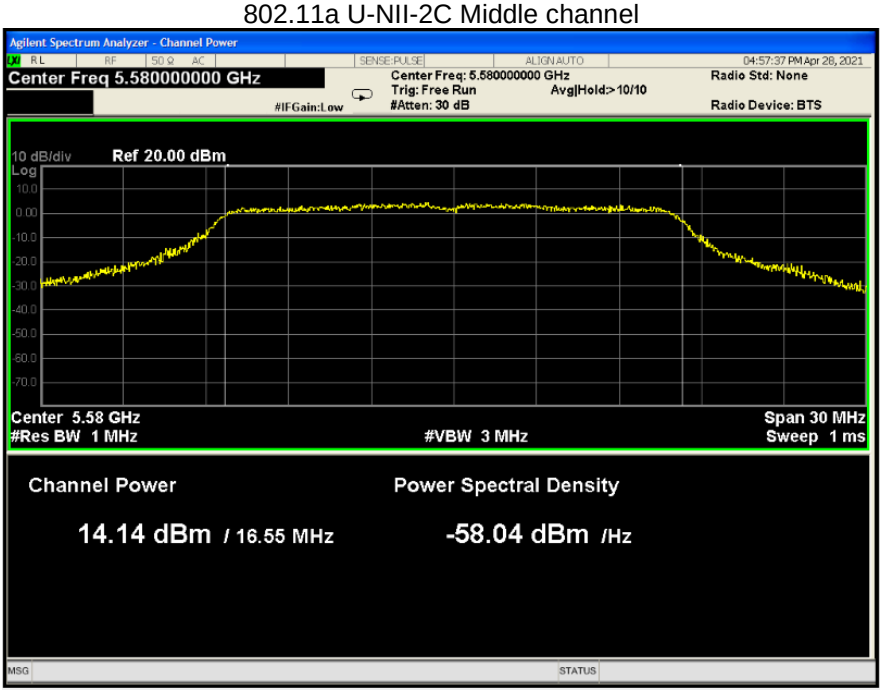
802.11ac(HT80) U-NII-2A Low channel



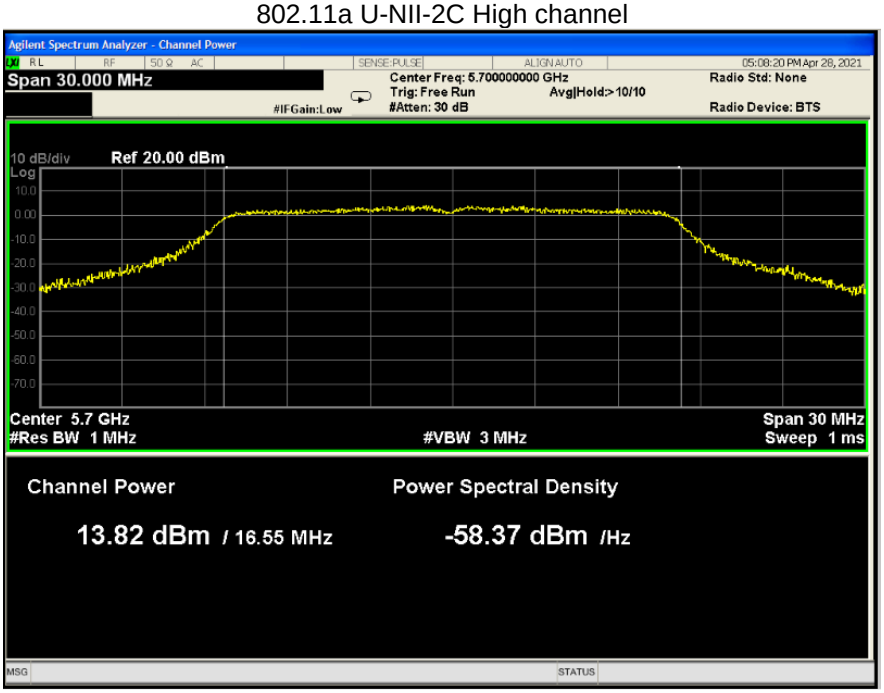

802.11a U-NII-2C Low channel



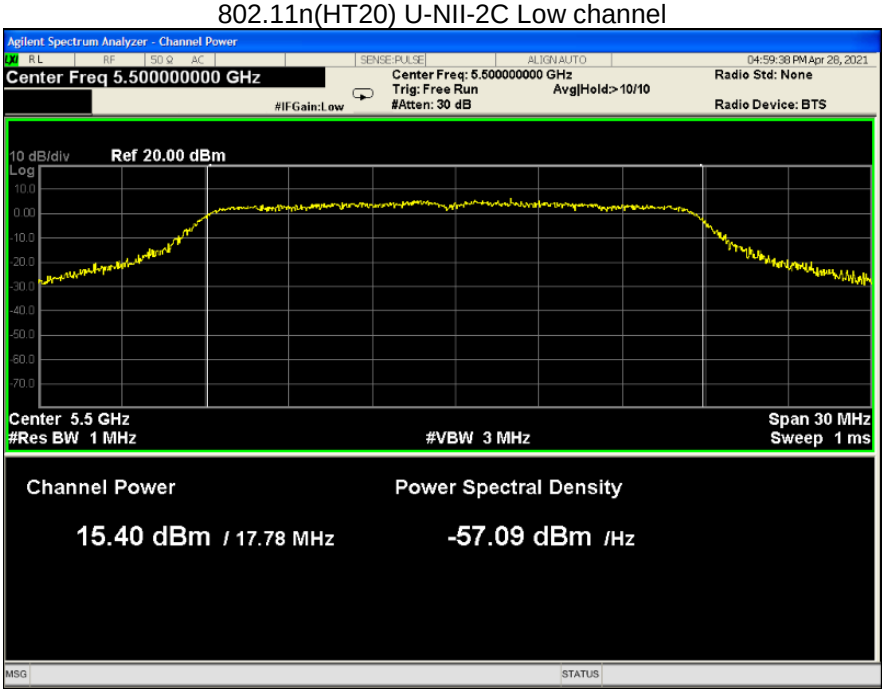
802.11a U-NII-2C Middle channel



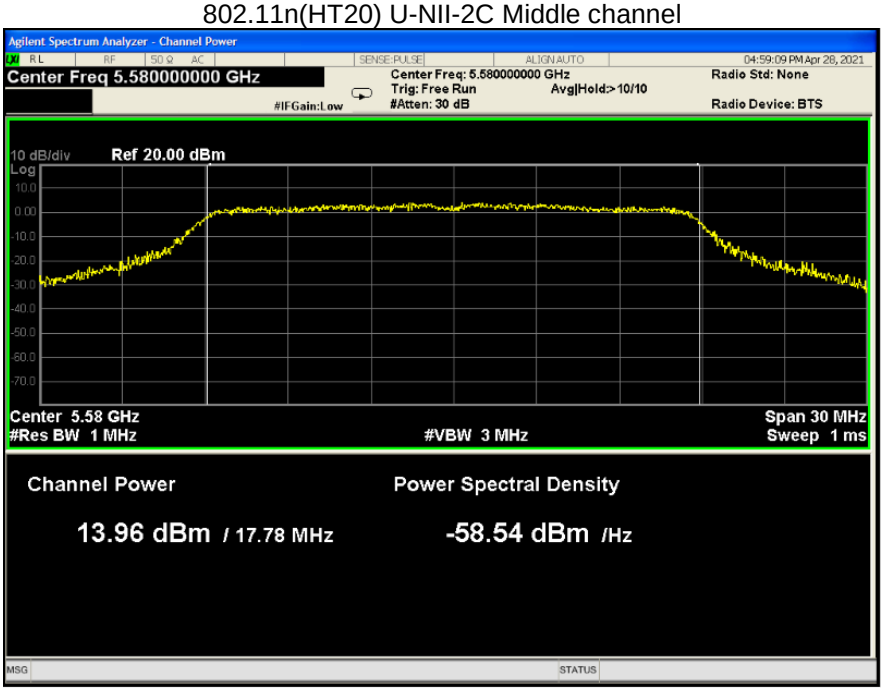

802.11a U-NII-2C High channel



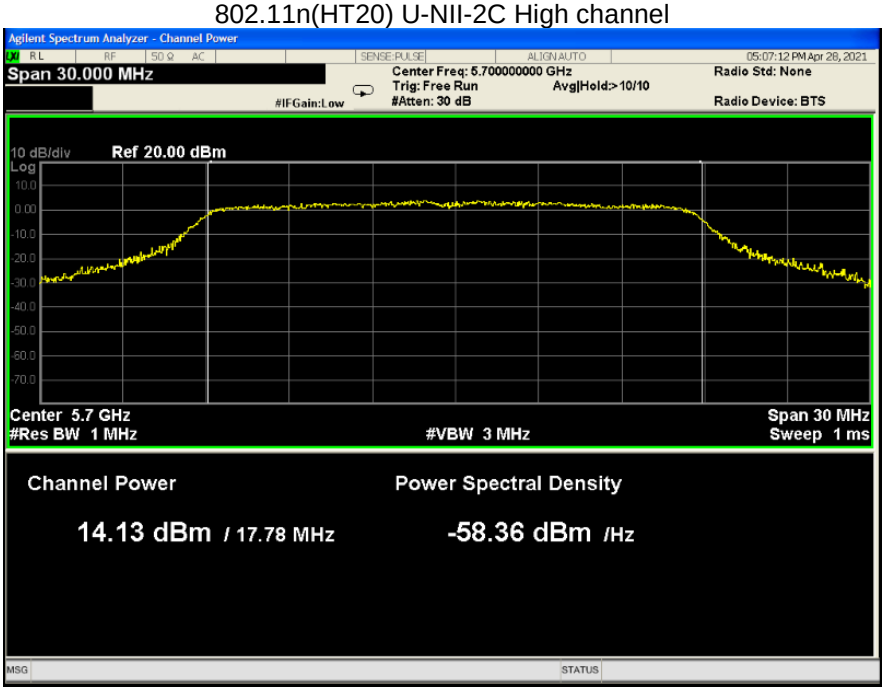
802.11n(HT20) U-NII-2C Low channel



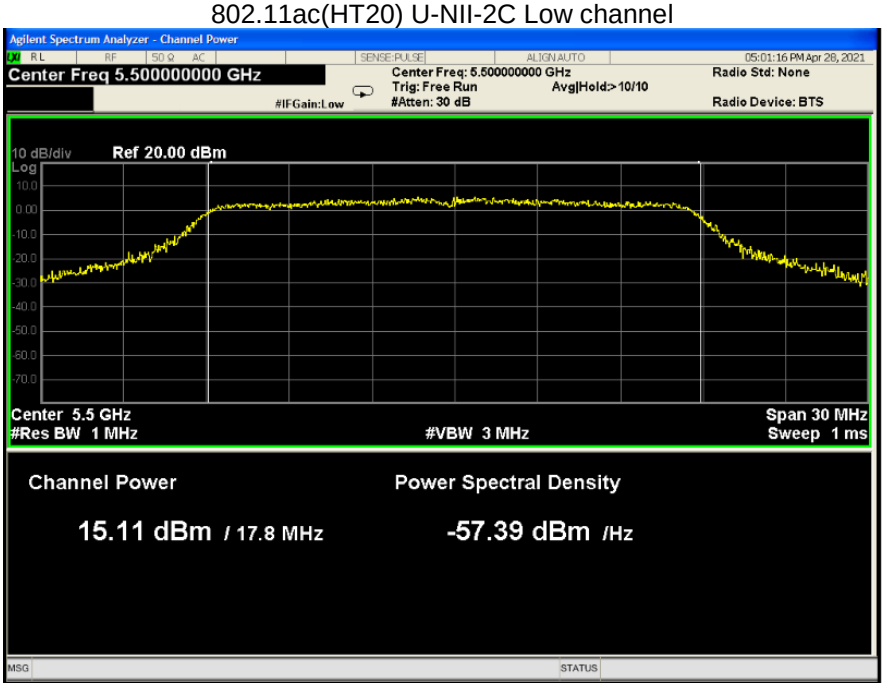

802.11n(HT20) U-NII-2C Middle channel



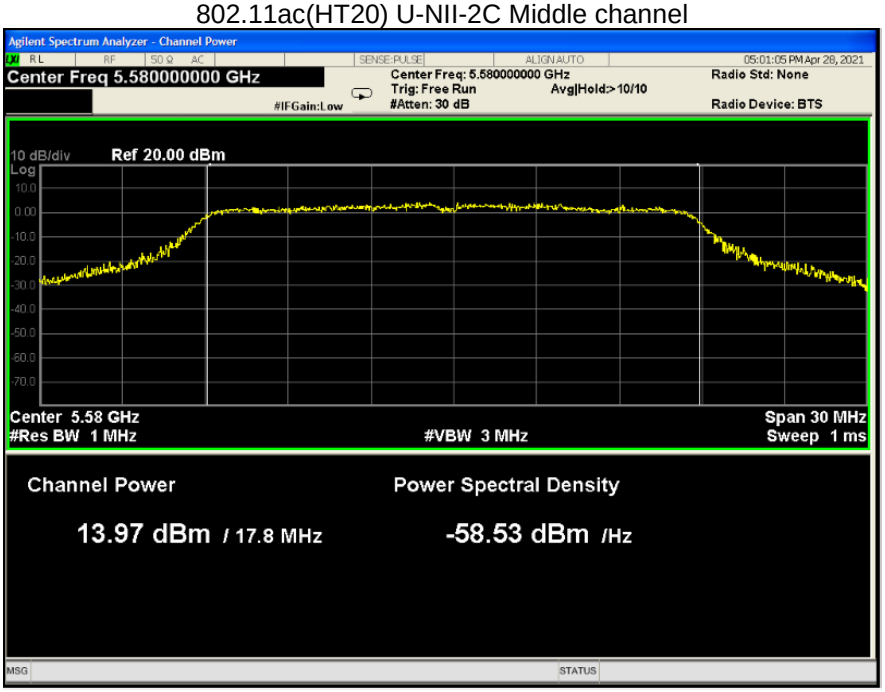
802.11n(HT20) U-NII-2C High channel



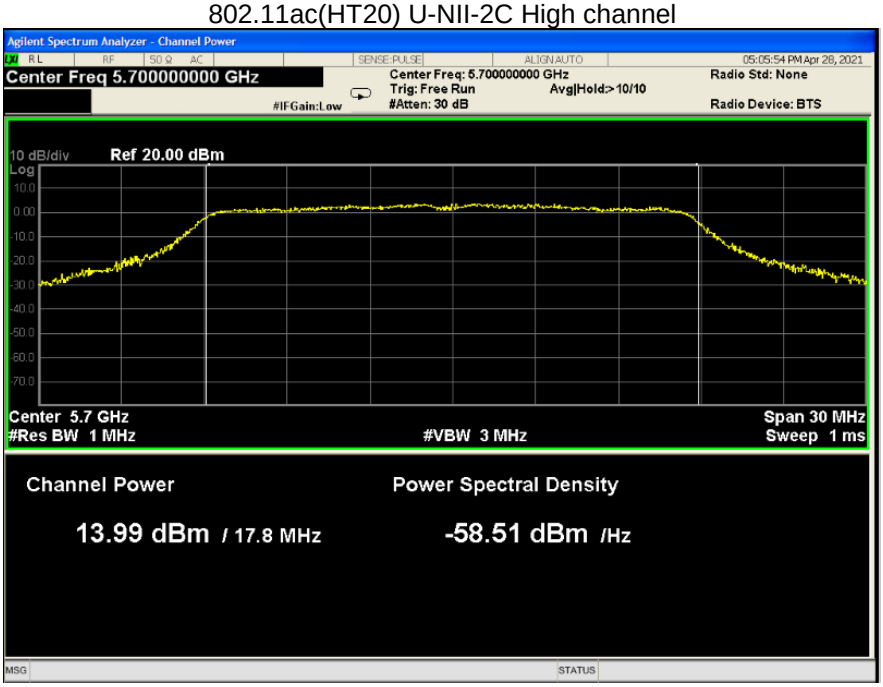
802.11ac(HT20) U-NII-2C Low channel



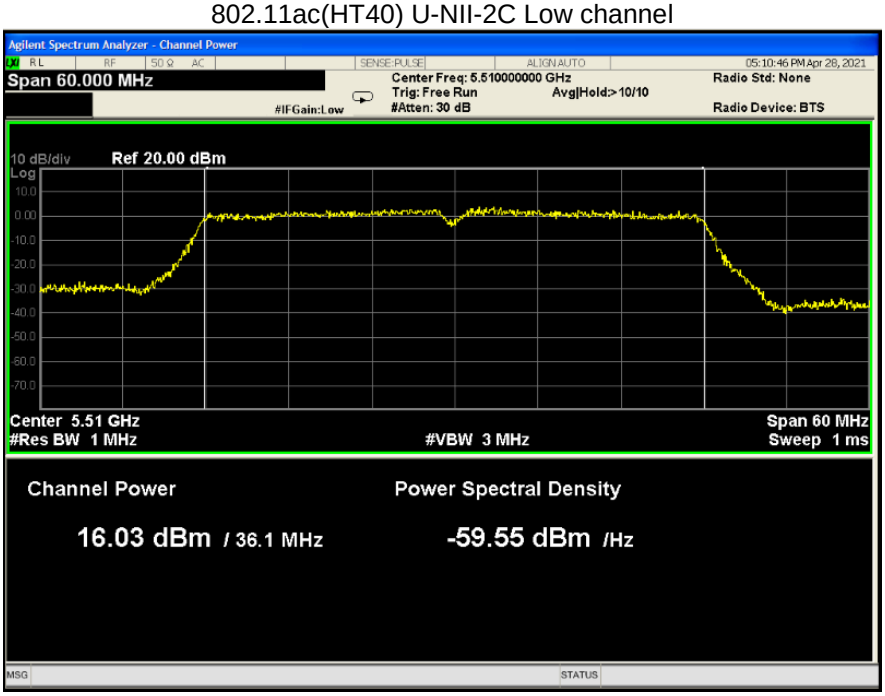

802.11ac(HT20) U-NII-2C Middle channel



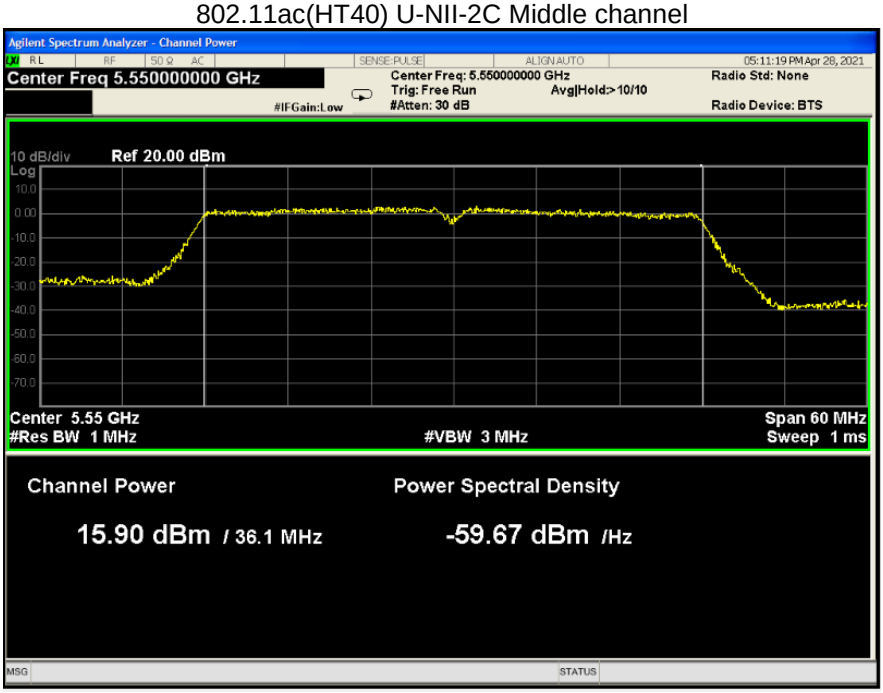
802.11ac(HT20) U-NII-2C High channel



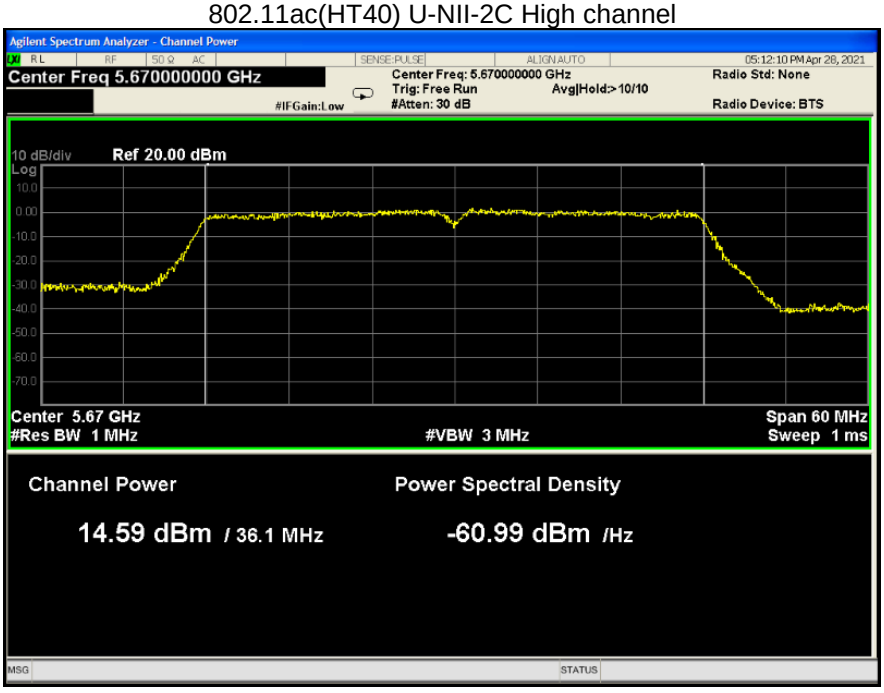

802.11ac(HT40) U-NII-2C Low channel



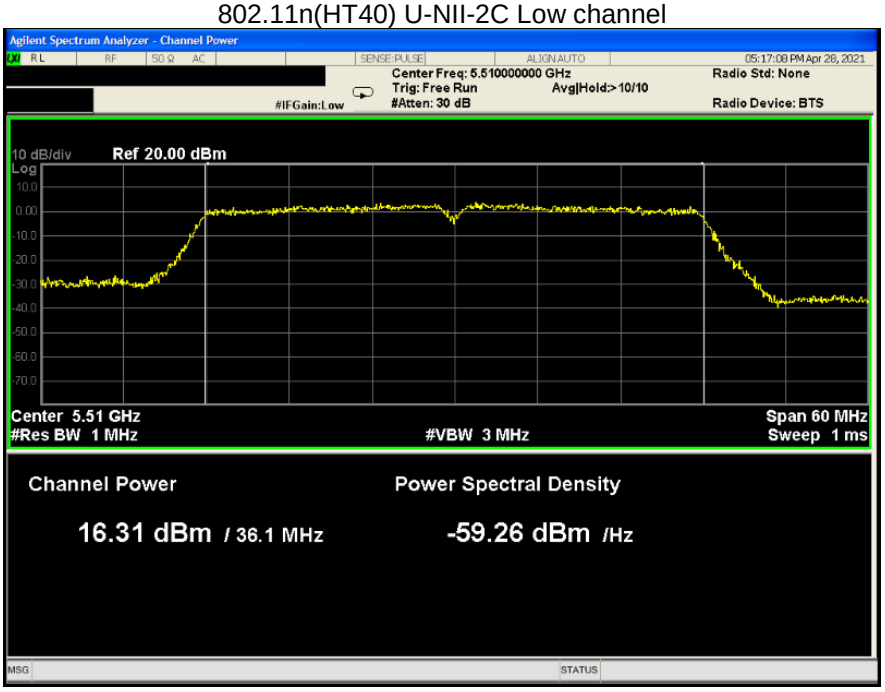
802.11ac(HT40) U-NII-2C Middle channel



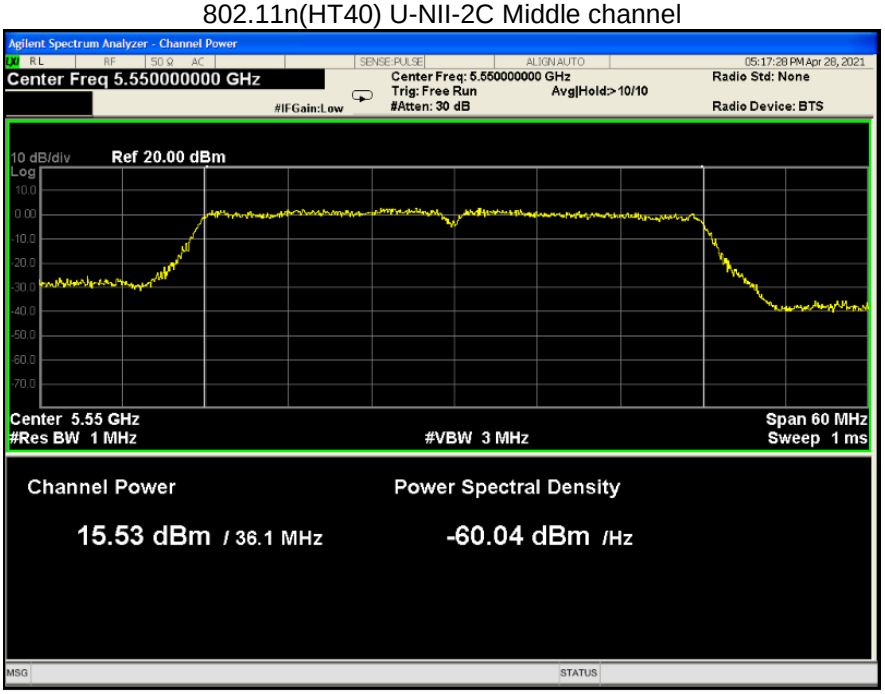

802.11ac(HT40) U-NII-2C High channel



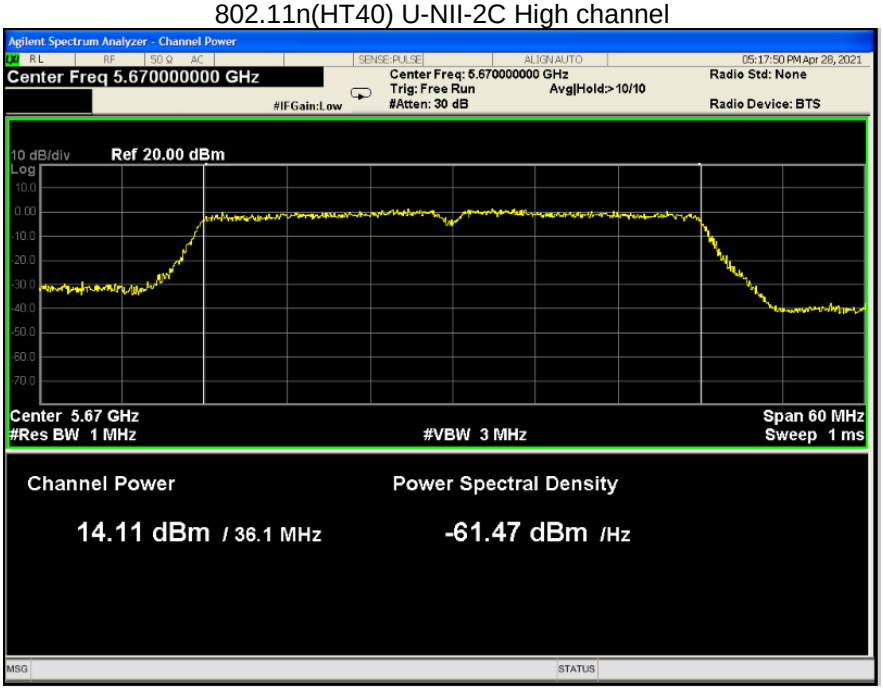
802.11n(HT40) U-NII-2C Low channel



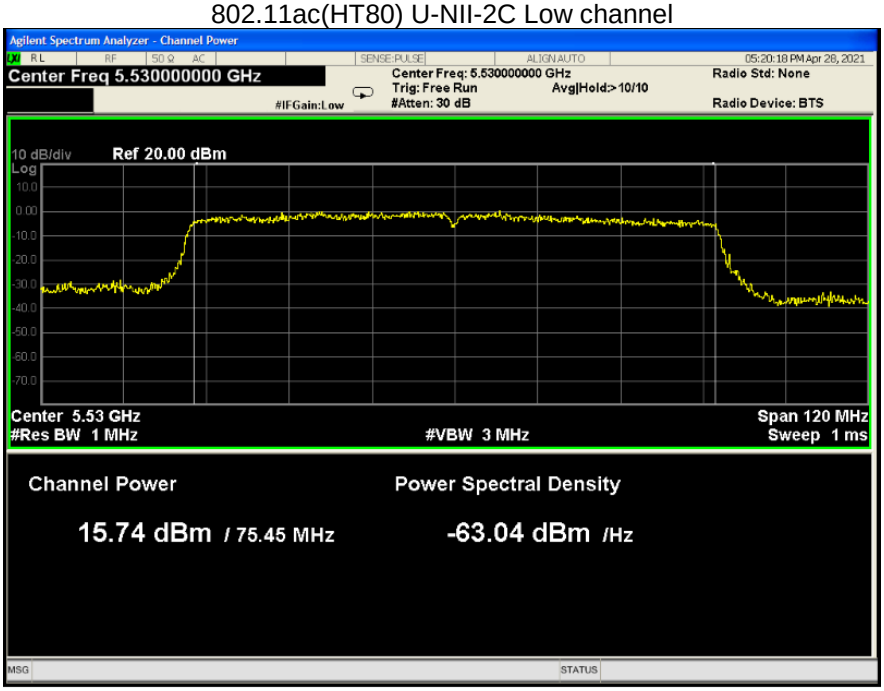

802.11n(HT40) U-NII-2C Middle channel



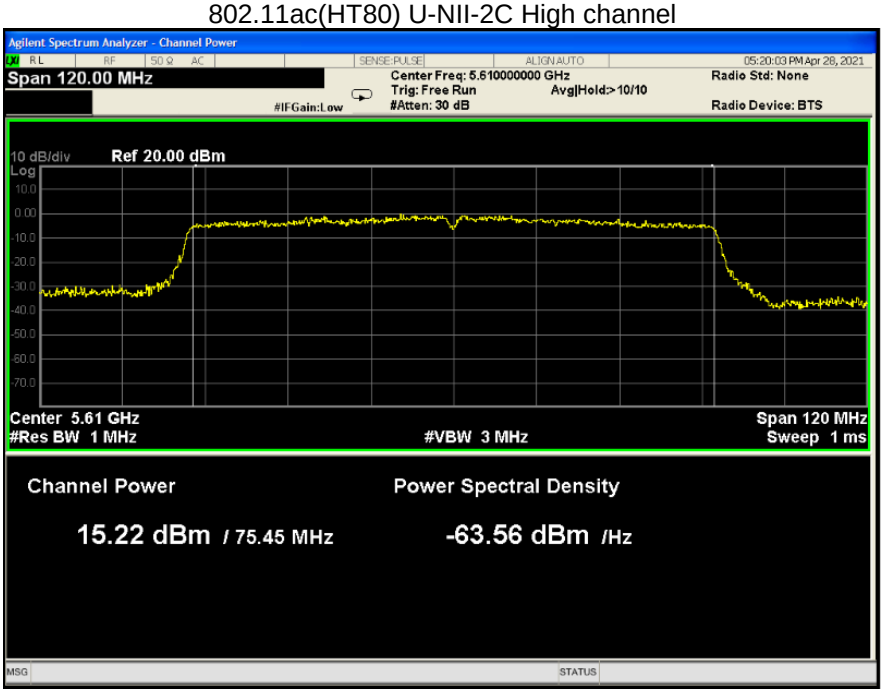
802.11n(HT40) U-NII-2C High channel



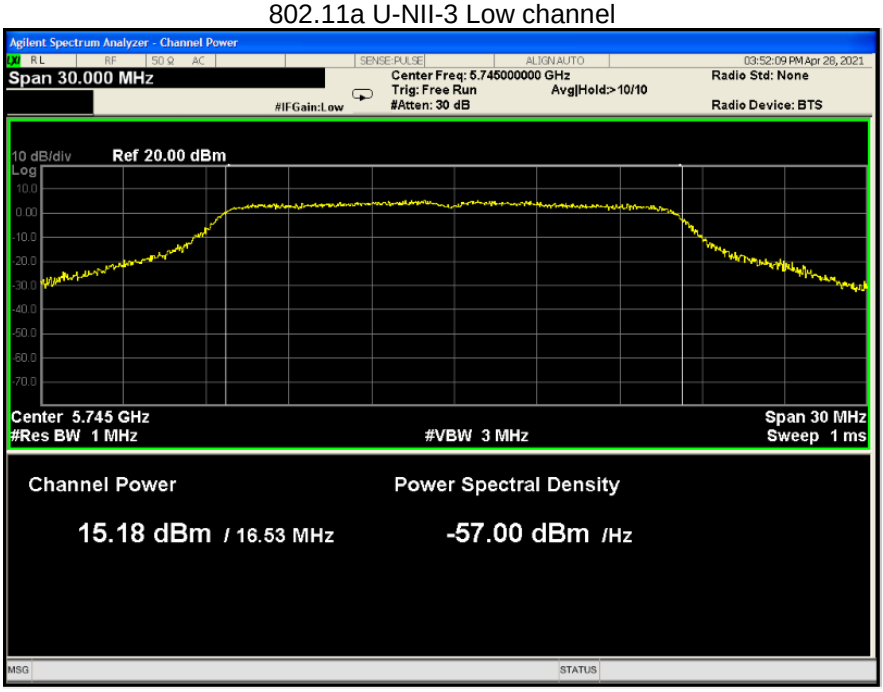

802.11ac(HT80) U-NII-2C Low channel



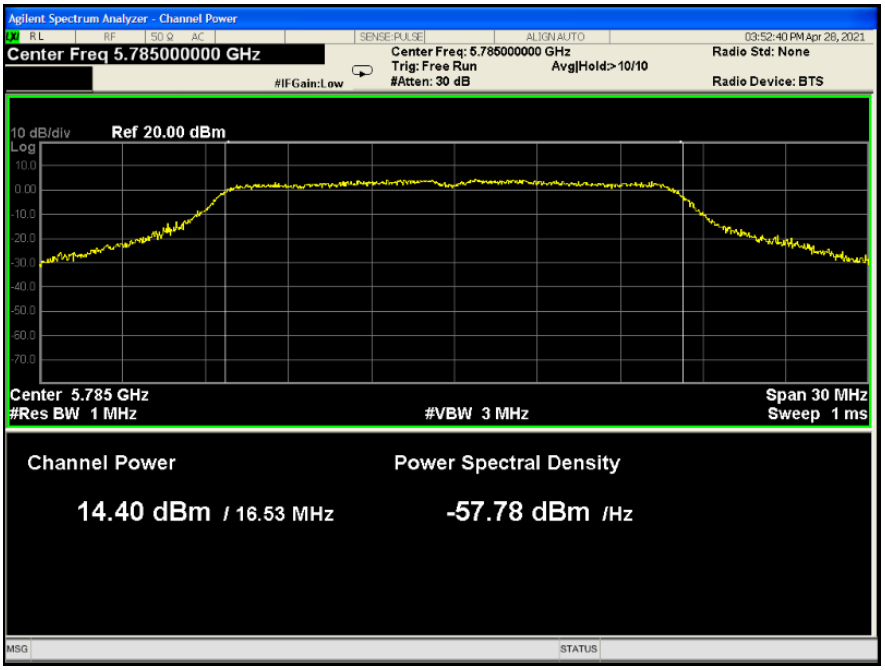
802.11ac(HT80) U-NII-2C High channel



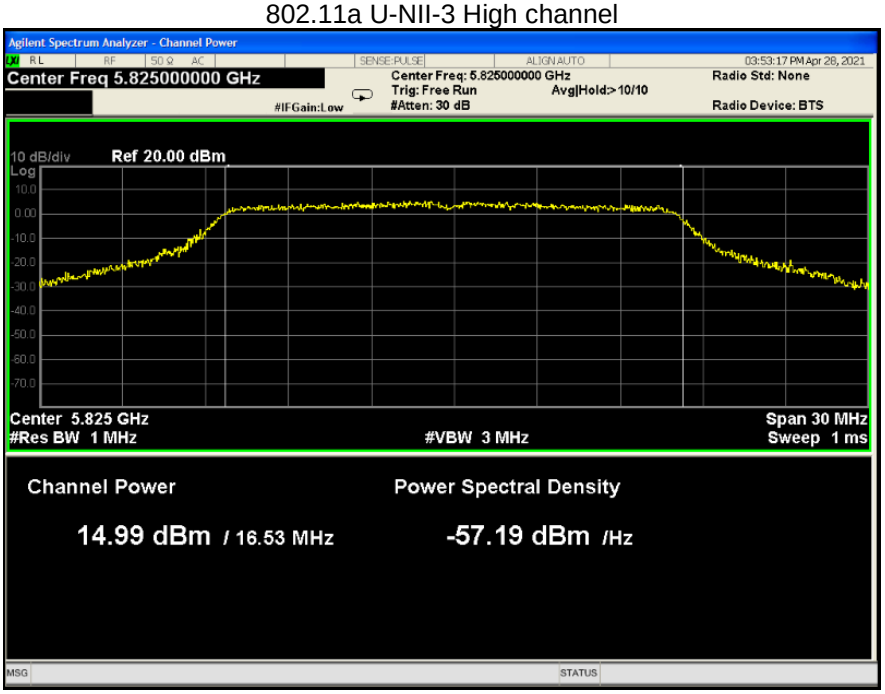

802.11a U-NII-3 Low channel



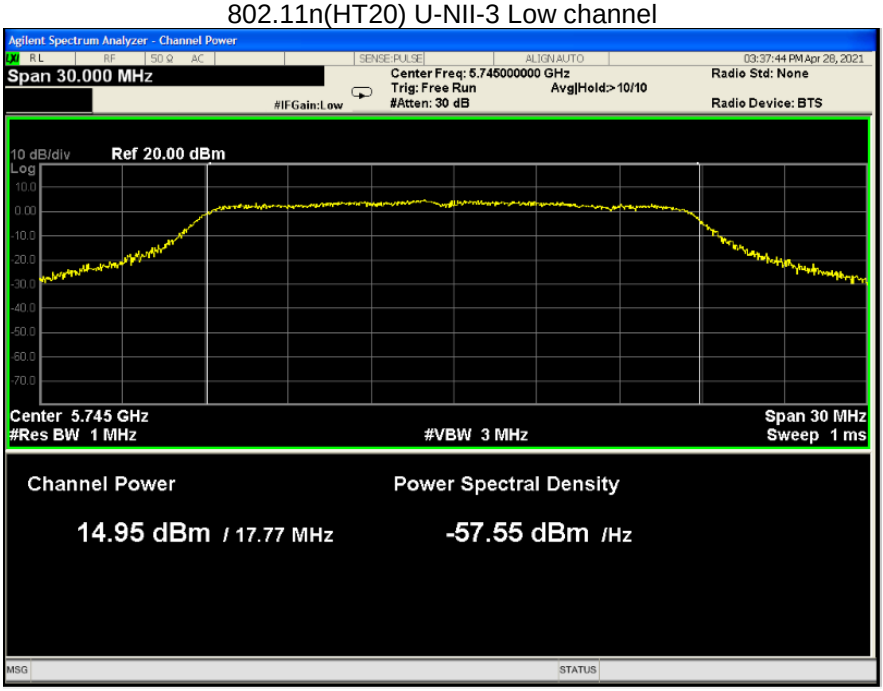
802.11a U-NII-3 Middle channel



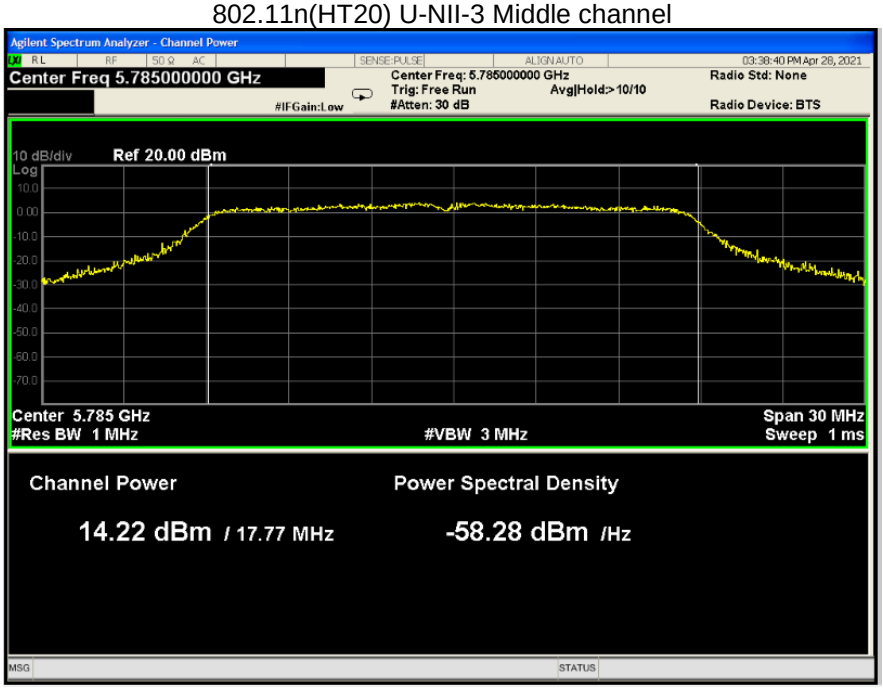

802.11a U-NII-3 High channel



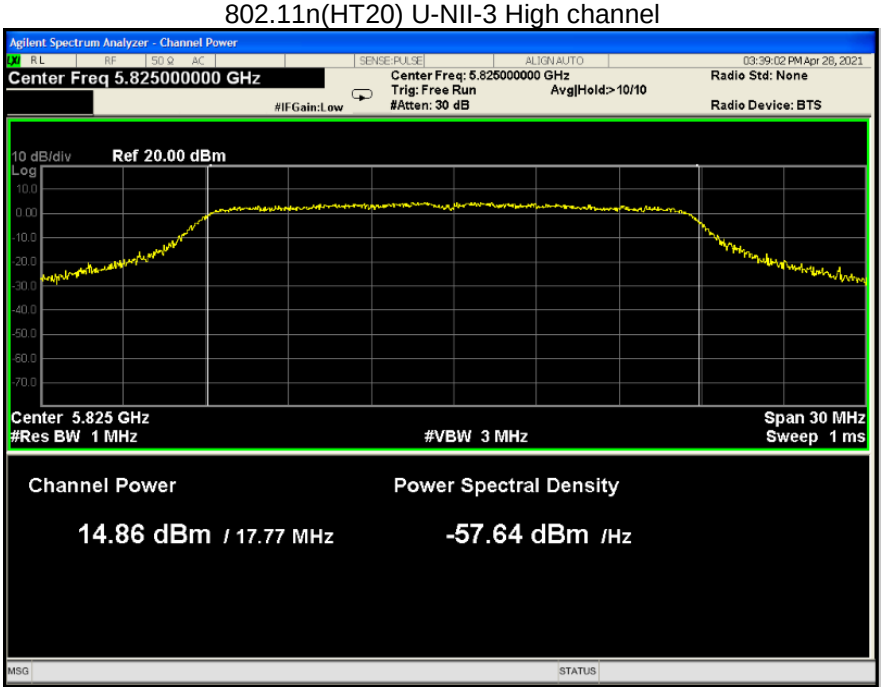
802.11n(HT20) U-NII-3 Low channel



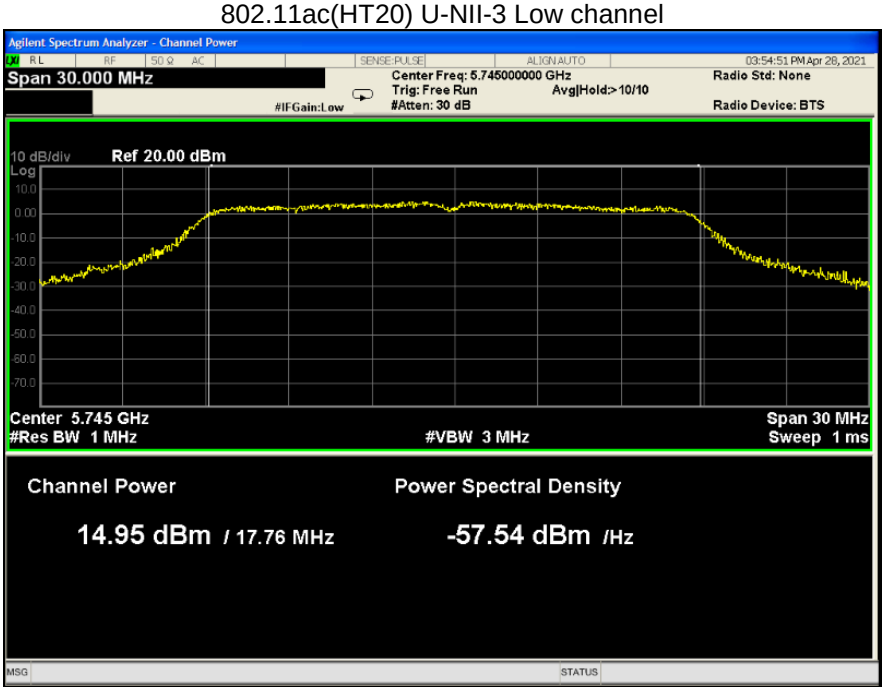

802.11n(HT20) U-NII-3 Middle channel



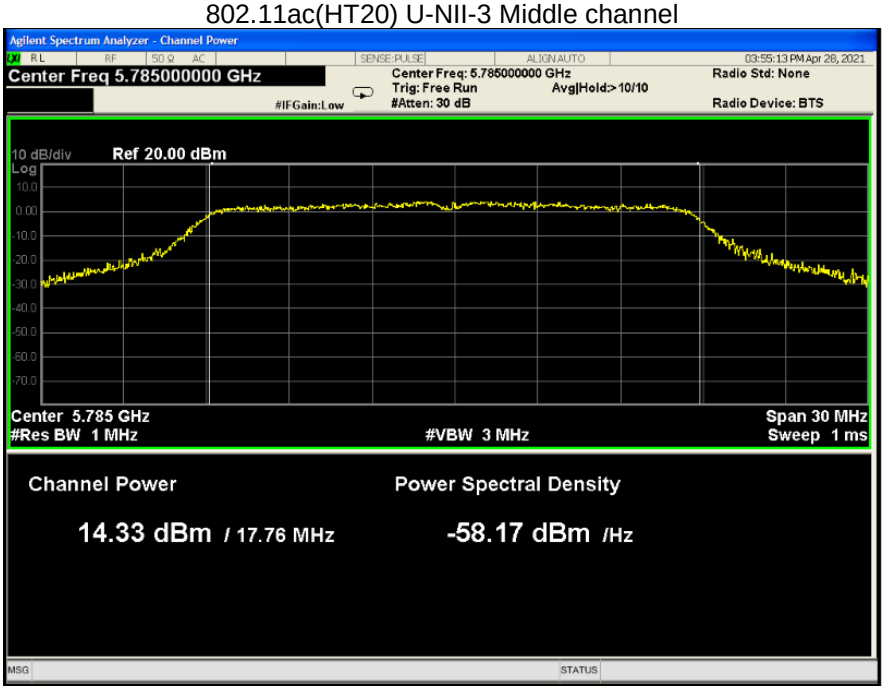
802.11n(HT20) U-NII-3 High channel



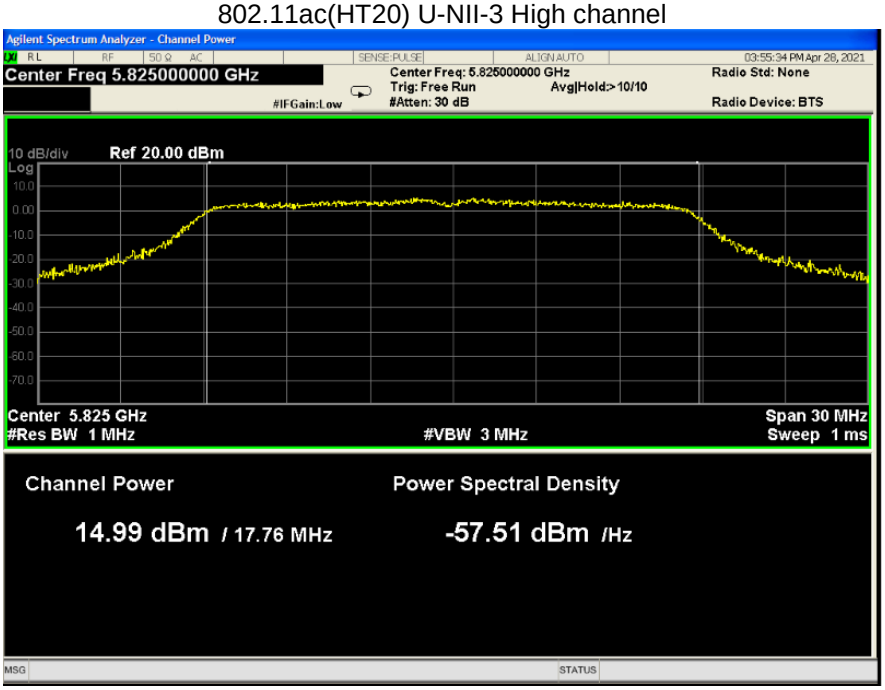

802.11ac(HT20) U-NII-3 Low channel



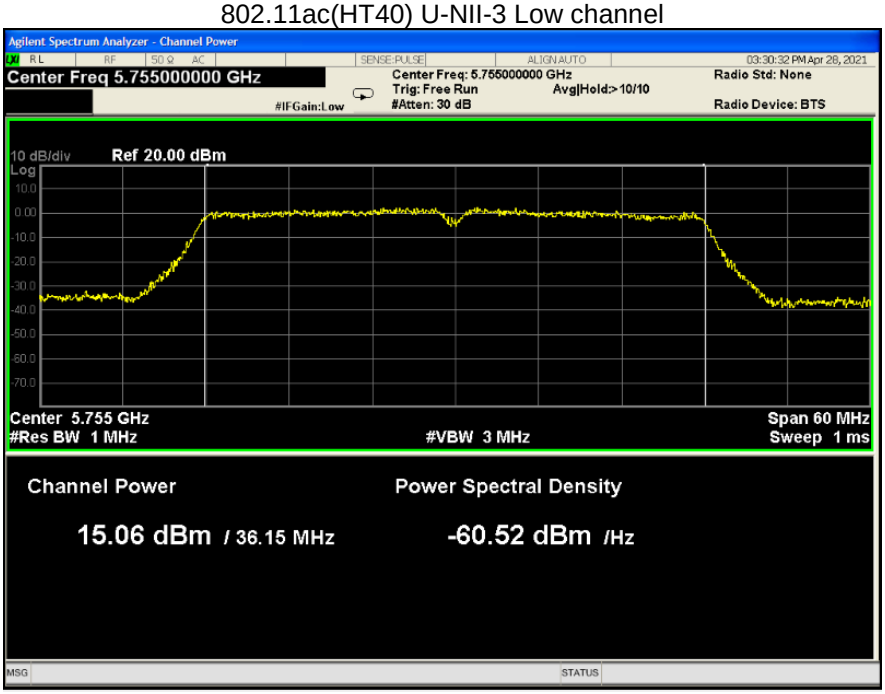
802.11ac(HT20) U-NII-3 Middle channel



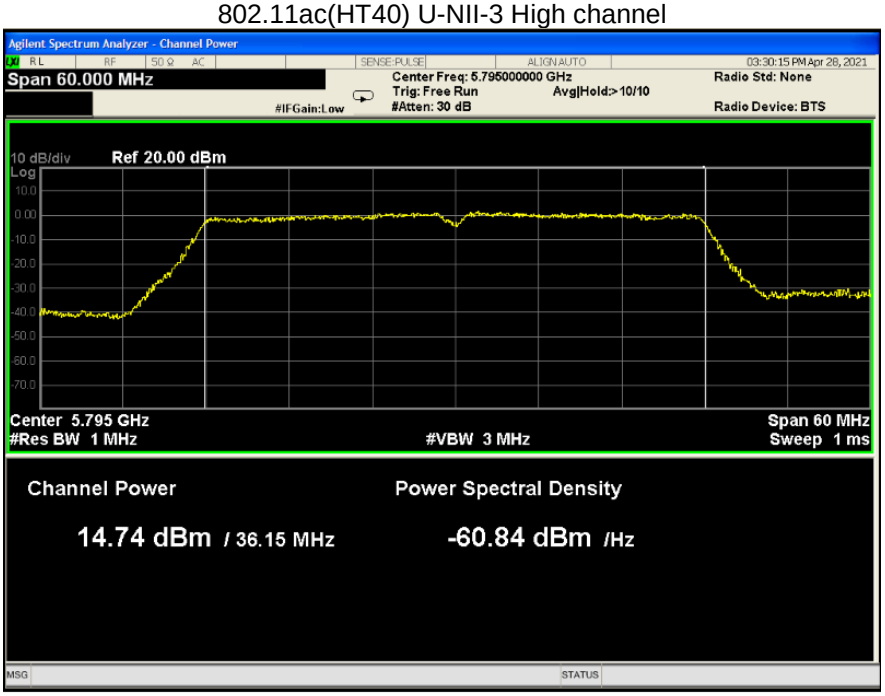

802.11ac(HT20) U-NII-3 High channel



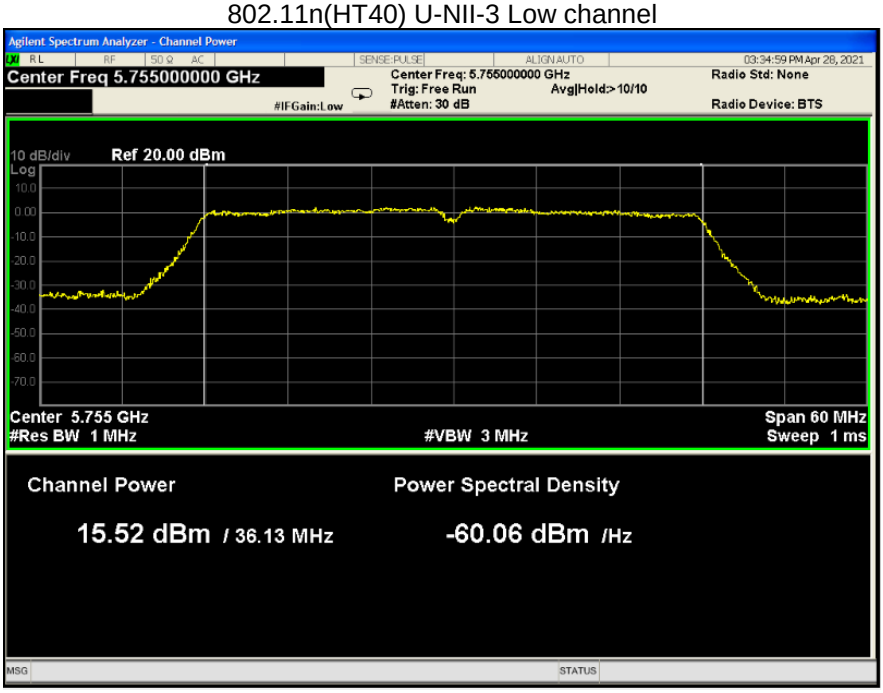
802.11ac(HT40) U-NII-3 Low channel



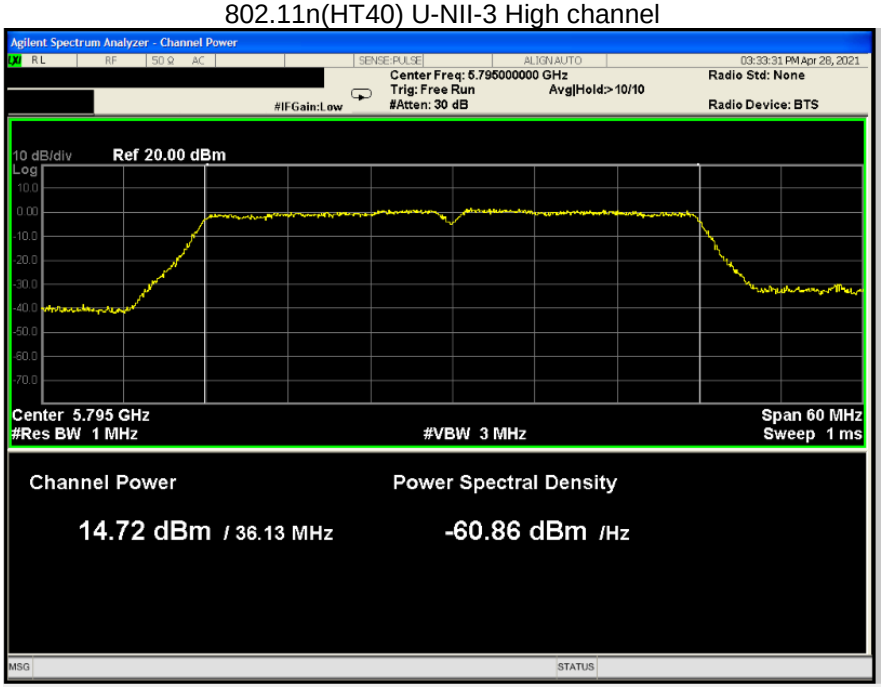

802.11ac(HT40) U-NII-3 High channel



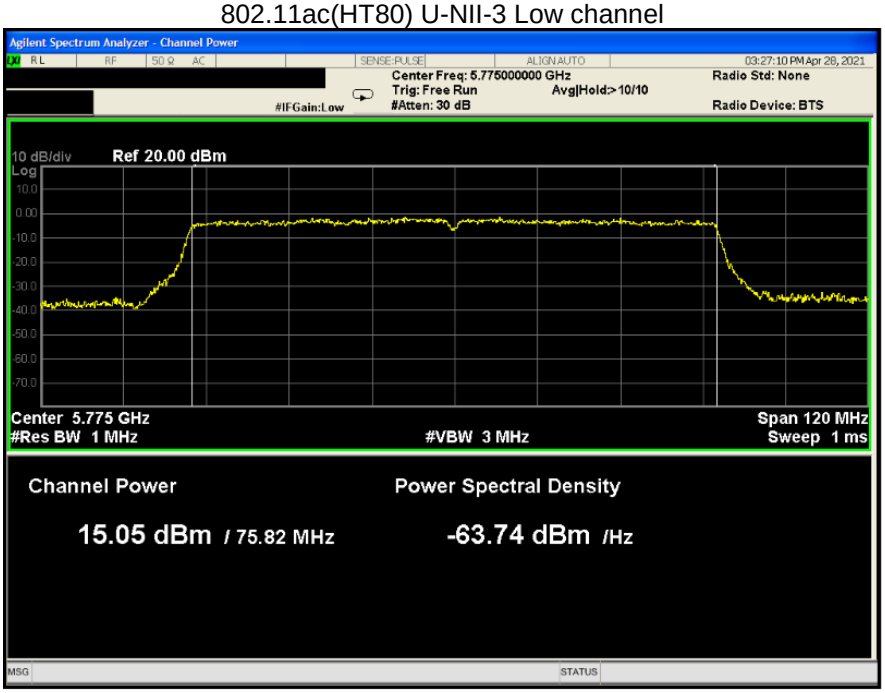
802.11n(HT40) U-NII-3 Low channel




802.11n(HT40) U-NII-3 High channel



802.11ac(HT80) U-NII-3 Low channel



# 14 Power Spectral density

| | |
|---|---|
| Test Requirement: | FCC CFR47 Part 15 Section 15.407(a)<br>KDB662911 D01 Multiple Transmitter Output v02r01 |
| Test Method: | KDB789033 D02 General U-NII Test Procedures New Rules v02r01, Section F |
| Test Limit: | ≤11.00dBm/MHz for Operation in the U-NII-1(5150MHz-5250MHz)of mobile device<br>≤30.00dBm/500KHz for Operation in the U-NII-3(5725MHz-5850MHz)of device |
| Test Result: | PASS |

## 14.1 Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

2. Set the spectrum analyzer:

U-NII-1

RBW = 1MHz, VBW ⩾3* RBW Sweep = auto; Detector Function = Peak. Trace = Max hold.

U-NII-3

RBW = 510KHz, VBW ⩾3* RBW Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

## 14.2 Test Result:

| Band | Operation mode | CH | Power Spectral Density (dBm/MHz) | | |
|---|---|---|---|---|---|
| | | | ANT0 | ANT1 | Total |
| U-NII-1 | 802.11a | Low | 4.986 | 6.705 | / |
| | | Middle | 5.13 | 6.707 | / |
| | | High | 5.241 | 6.831 | / |
| | 802.11n(HT20) | Low | 6.74 | 6.474 | 9.62 |
| | | Middle | 5.269 | 6.524 | 8.95 |
| | | High | 7.425 | 7.026 | 10.24 |
| | 802.11n(HT40) | Low | 3.028 | 4.653 | 6.93 |
| | | Middle | / | / | / |
| | | High | 4.573 | 4.998 | 7.80 |
| | 802.11ac(HT20) | Low | 5.696 | 6.343 | 9.04 |
| | | Middle | 6.031 | 6.629 | 9.35 |
| | | High | 6.492 | 7.084 | 9.81 |
| | 802.11ac(HT40) | Low | 3.124 | 4.686 | 6.99 |
| | | Middle | / | / | / |
| | | High | 4.281 | 4.866 | 7.59 |
| | 802.11ac(HT80) | Low | 0.738 | 1.395 | 4.09 |
| | | Middle | / | / | |
| | | High | / | / | / |
| | Limit | | ≤11.00dBm/MHz | | |

| Band | Operation mode | CH | Power Spectral Density (dBm/MHz) | | |
|---|---|---|---|---|---|
| | | | ANT0 | ANT1 | Total |
| U-NII-2A | 802.11a | Low | 5.956 | 5.262 | / |
| | | Middle | 5.473 | 4.624 | / |
| | | High | 5.875 | 5.164 | / |
| | 802.11n(HT20) | Low | 6.379 | 4.629 | 8.60 |
| | | Middle | 6.034 | 4.323 | 8.27 |
| | | High | 6.288 | 3.244 | 8.04 |
| | 802.11n(HT40) | Low | 4.799 | 2.576 | 6.84 |
| | | Middle | / | / | / |
| | | High | 4.725 | 3.034 | 6.97 |
| | 802.11ac(HT20) | Low | 7.034 | 4.925 | 9.12 |
| | | Middle | 6.216 | 4.496 | 8.45 |
| | | High | 5.552 | 5.21 | 8.39 |
| | 802.11ac(HT40) | Low | 4.24 | 2.029 | 6.28 |
| | | Middle | / | / | / |
| | | High | 4.565 | 2.953 | 6.84 |
| | 802.11ac(HT80) | Low | 1.536 | -0.751 | 3.55 |
| | | Middle | / | / | |
| | | High | / | / | / |
| | Limit | | ≤11.00dBm/MHz | | |

| Band | Operation mode | CH | Power Spectral Density (dBm/MHz) | | |
|---|---|---|---|---|---|
| | | | ANT0 | ANT1 | Total |
| U-NII-2C | 802.11a | Low | 5.064 | 5.455 | / |
| | | Middle | 4.513 | 5.26 | / |
| | | High | 5.181 | 4.748 | / |
| | 802.11n(HT20) | Low | 5.035 | 6.242 | 8.69 |
| | | Middle | 4.162 | 5.061 | 7.65 |
| | | High | 5.365 | 3.893 | 7.70 |
| | 802.11n(HT40) | Low | 2.703 | 4.123 | 6.48 |
| | | Middle | 1.46 | 3.896 | 5.86 |
| | | High | 2.622 | 1.911 | 5.29 |
| | 802.11ac(HT20) | Low | 4.456 | 6.737 | 8.75 |
| | | Middle | 4.112 | 4.891 | 7.53 |
| | | High | 5.16 | 4.38 | 7.80 |
| | 802.11ac(HT40) | Low | 2.548 | 4.476 | 6.63 |
| | | Middle | 1.356 | 3.432 | 5.53 |
| | | High | 2.703 | 2.347 | 5.54 |
| | 802.11ac(HT80) | Low | -0.675 | 1.245 | 3.40 |
| | | Middle | / | / | |
| | | High | -0.492 | 0.664 | 3.13 |
| | Limit | | ≤11.00dBm/MHz | | |

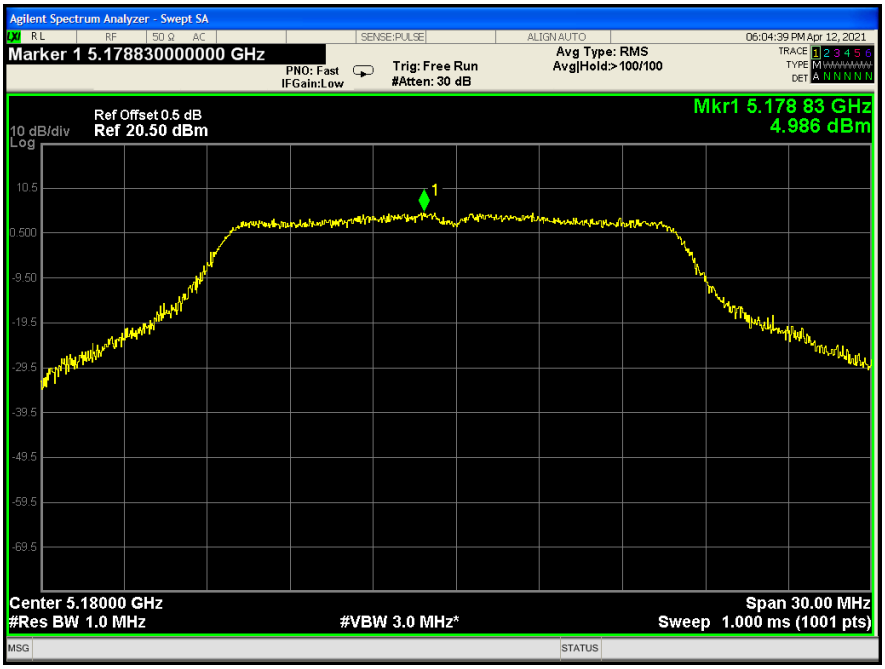
| Band | Operation mode | CH | Power Spectral Density (dBm/0.5Mhz) | | |
|---|---|---|---|---|---|
| | | | ANT0 | ANT1 | Total |
| U-NII-3 | 802.11a | Low | 3.8 | 4.044 | / |
| | | Middle | 4.573 | 2.481 | / |
| | | High | 3.834 | 3.592 | / |
| | 802.11n(HT20) | Low | 3.462 | 3.565 | 6.52 |
| | | Middle | 4.051 | 1.937 | 6.13 |
| | | High | 3.628 | 3.578 | 6.61 |
| | 802.11n(HT40) | Low | 0.557 | -0.007 | 3.29 |
| | | Middle | / | / | / |
| | | High | 0.953 | -0.084 | 3.48 |
| | 802.11ac(HT20) | Low | 2.947 | 3.439 | 6.21 |
| | | Middle | 4 | 2.499 | 6.32 |
| | | High | 4.189 | 3.061 | 6.67 |
| | 802.11ac(HT40) | Low | 0.572 | 0.08 | 8.83 |
| | | Middle | / | / | / |
| | | High | 1.152 | -0.669 | 3.35 |
| | 802.11ac(HT80) | Low | -2.008 | -3.081 | 0.50 |
| | | Middle | / | / | |
| | | High | / | / | / |
| | Limit | | ≤30.00dBm/0.5Mhz | | |

* All transmit signals are completely uncorrelated with each other, Directional gain = $G_{ANT}$ which is less than 6dBi. So the limit does not be reduced.

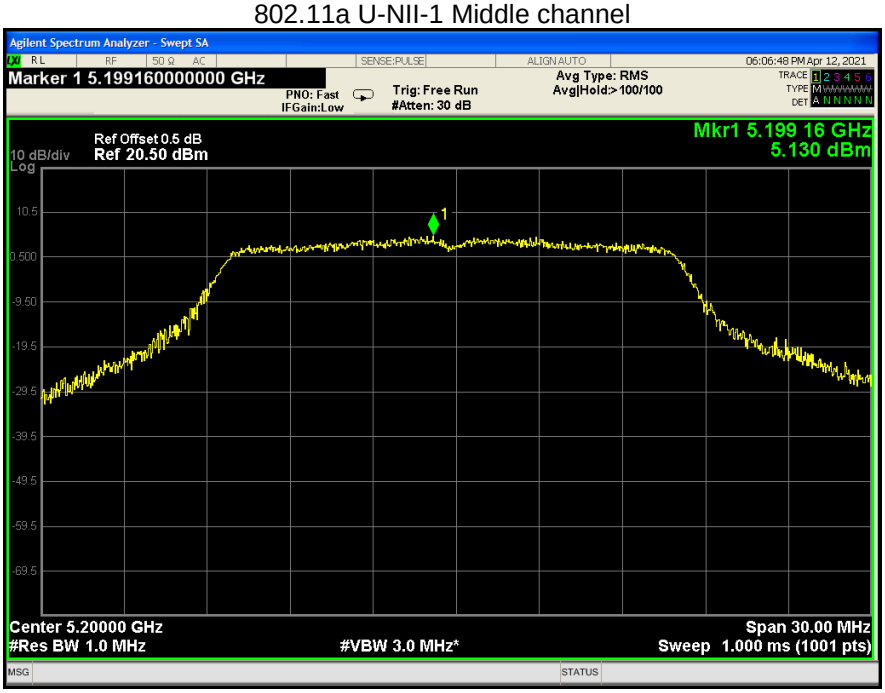
Test result plots shown as follows:

ANT 0

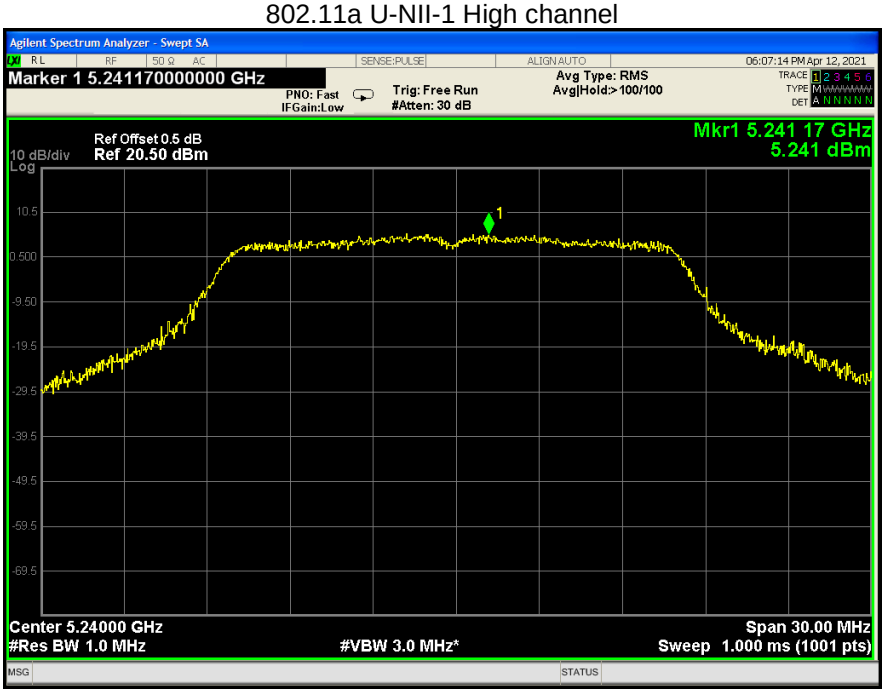
802.11a U-NII-1 Low channel



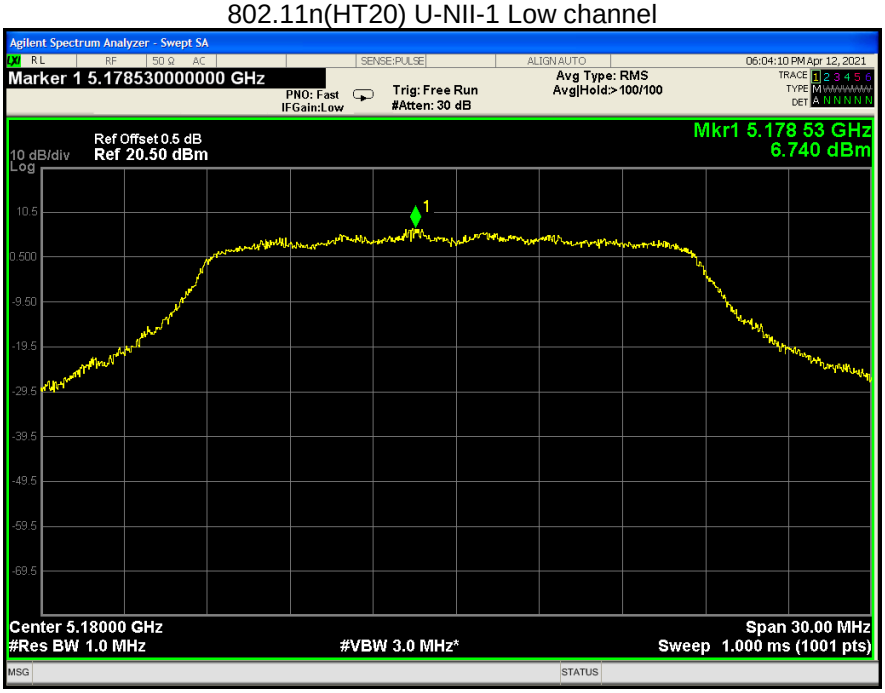

802.11a U-NII-1 Middle channel



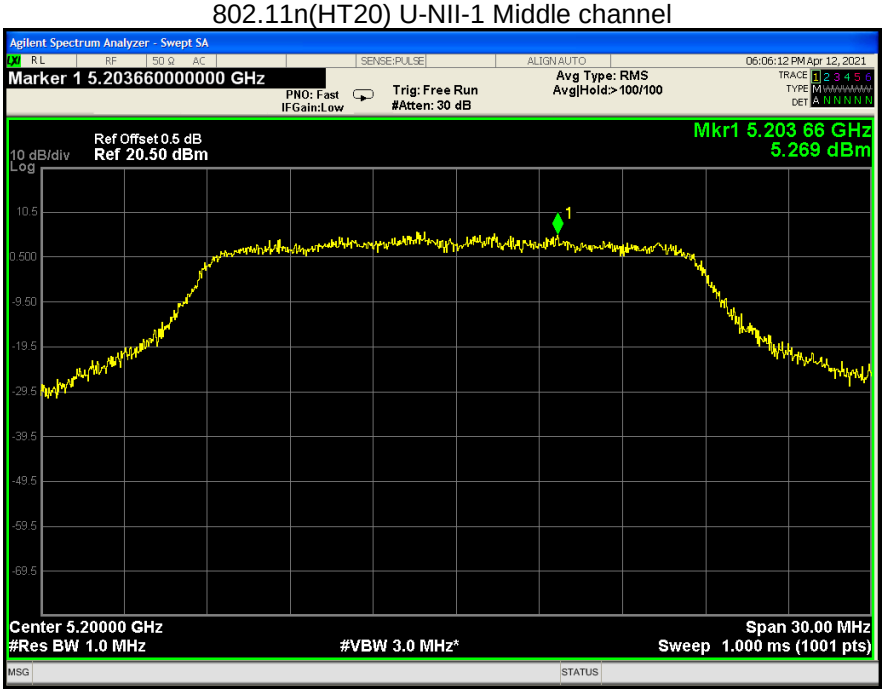
802.11a U-NII-1 High channel




802.11n(HT20) U-NII-1 Low channel



802.11n(HT20) U-NII-1 Middle channel




802.11n(HT20) U-NII-1 High channel