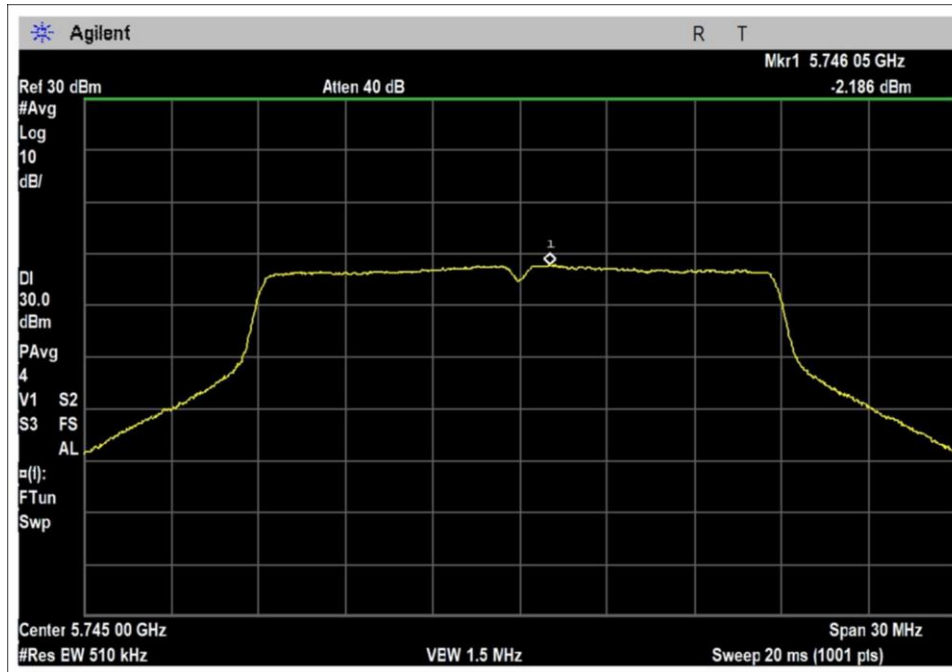
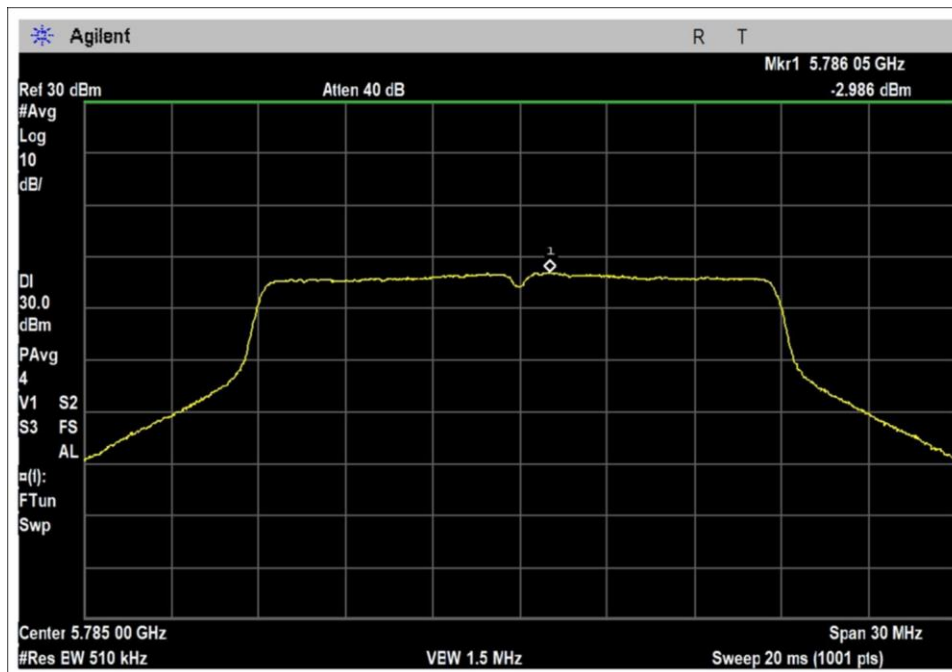


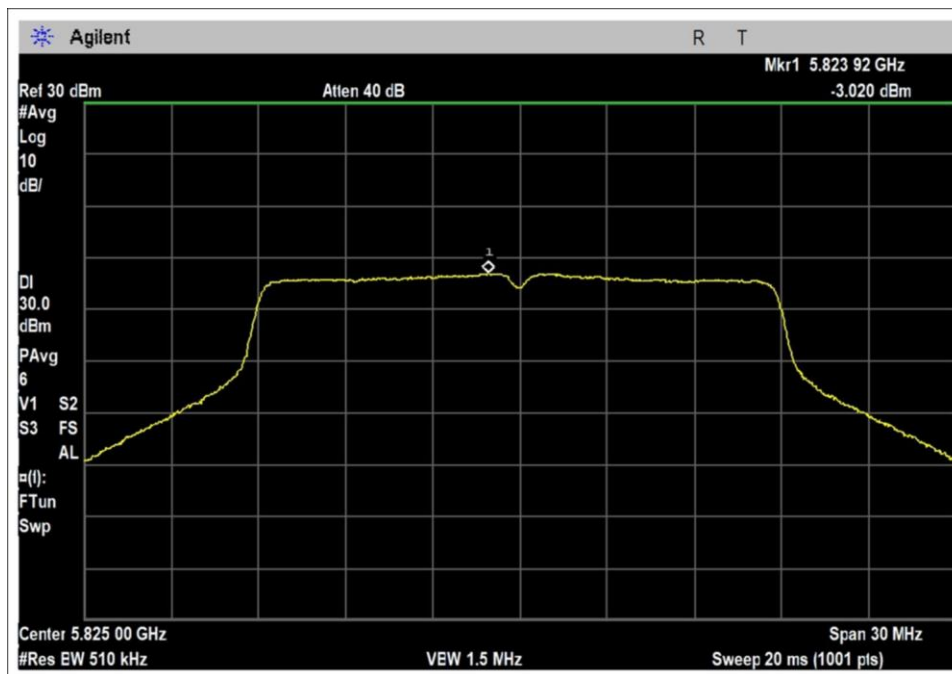
## 802.11ac20 Test Data



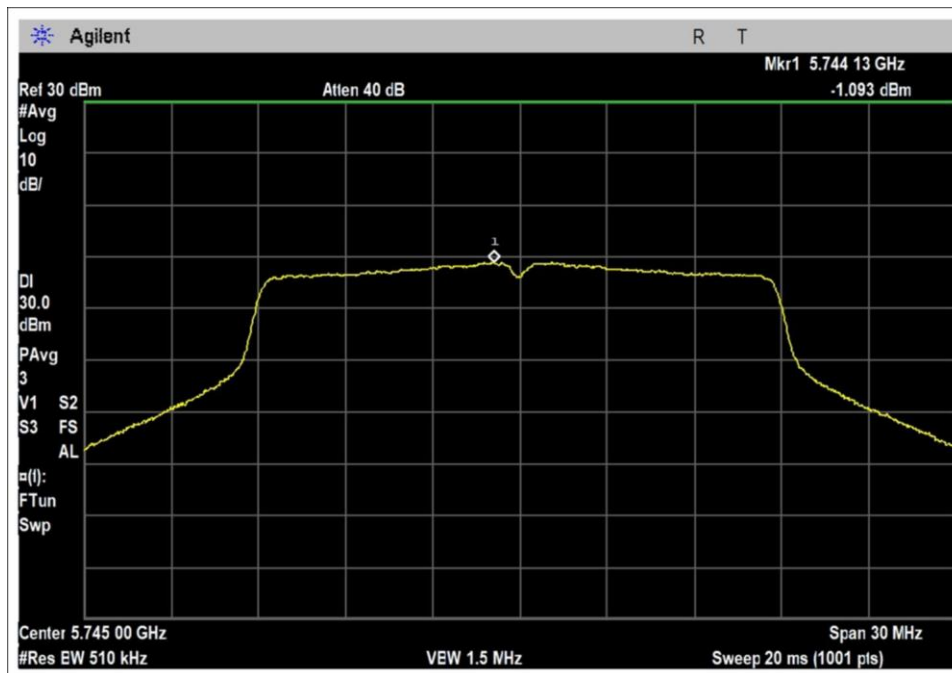
AP0 Low Channel



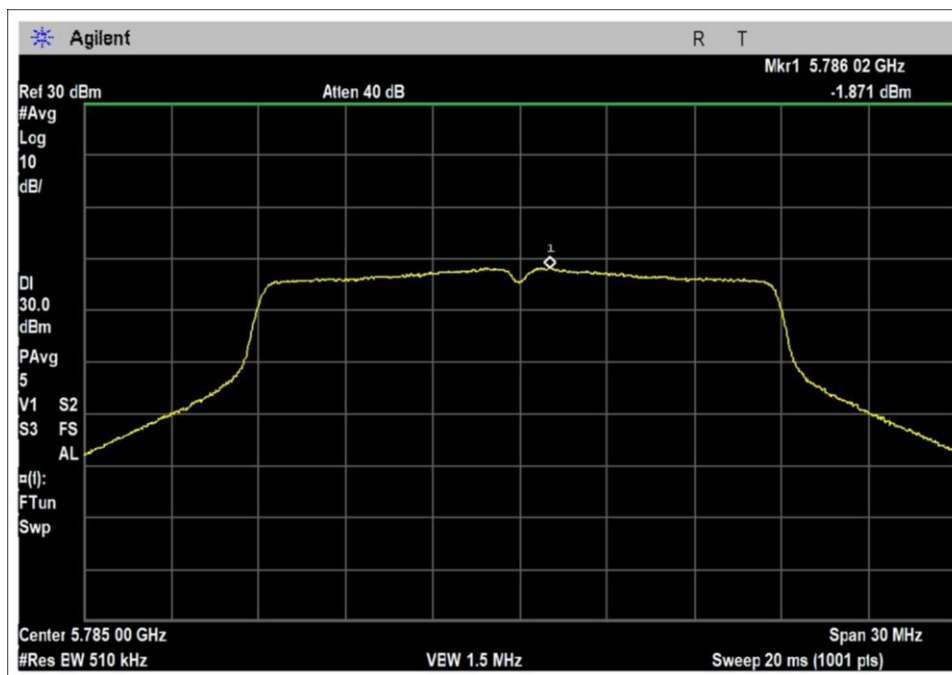
AP0 Middle Channel



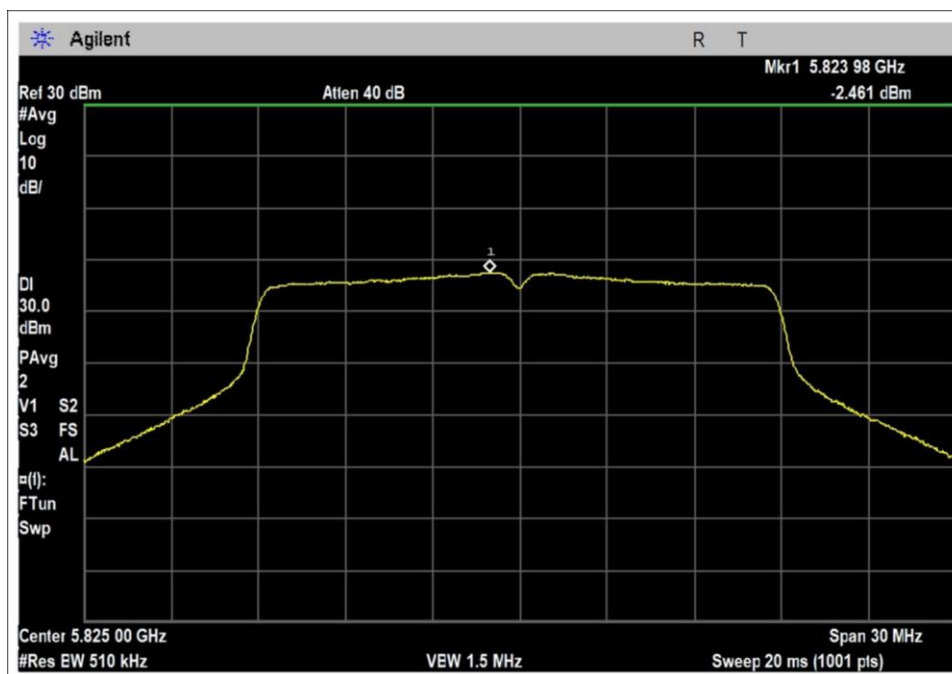
APO High Channel



AP1 Low Channel

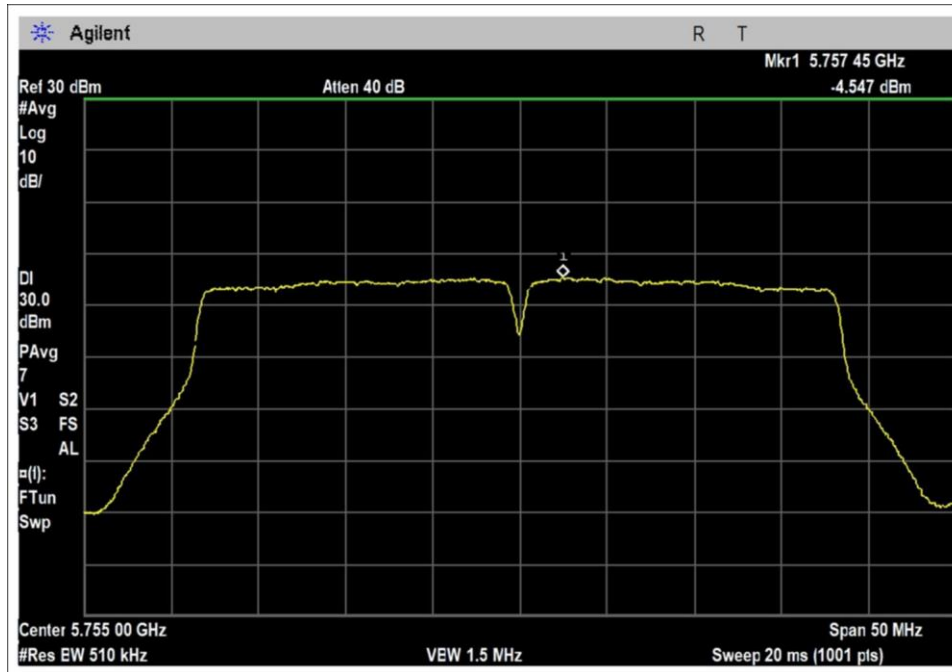


AP1 Middle Channel

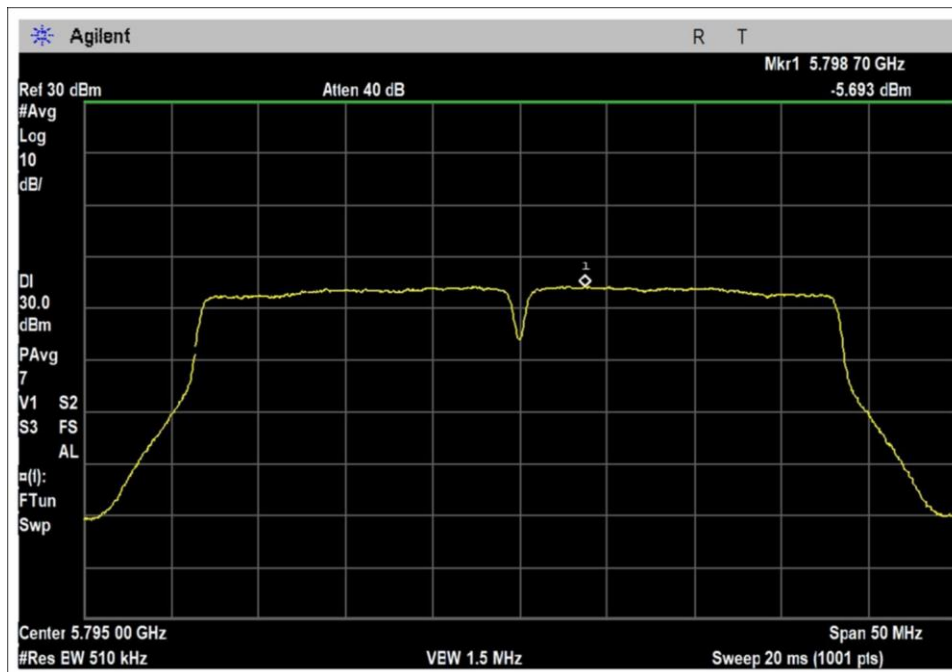


AP1 High Channel

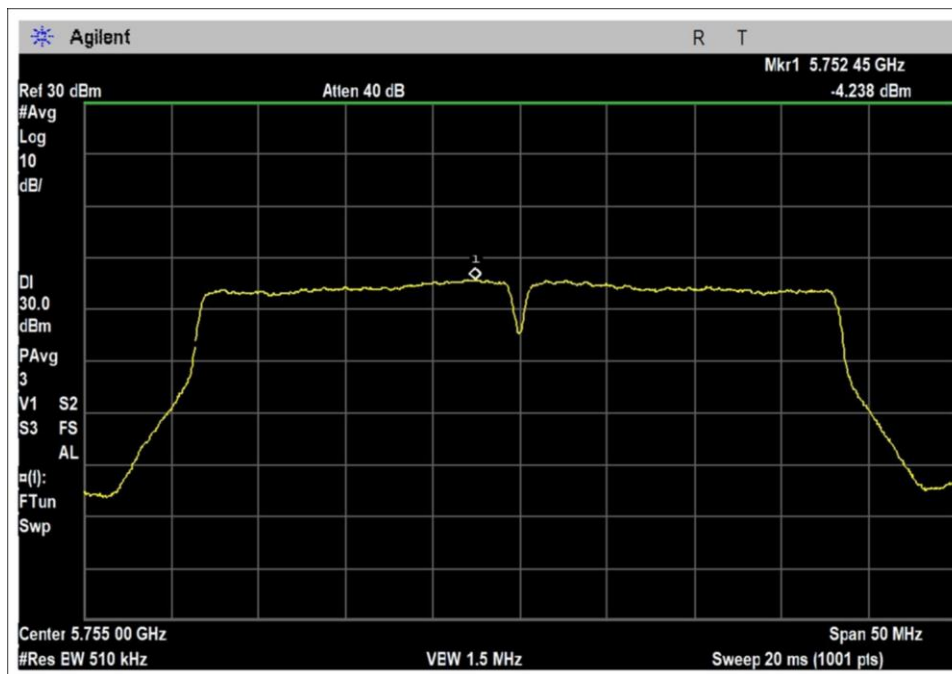
## 802.11ac40 Test Data



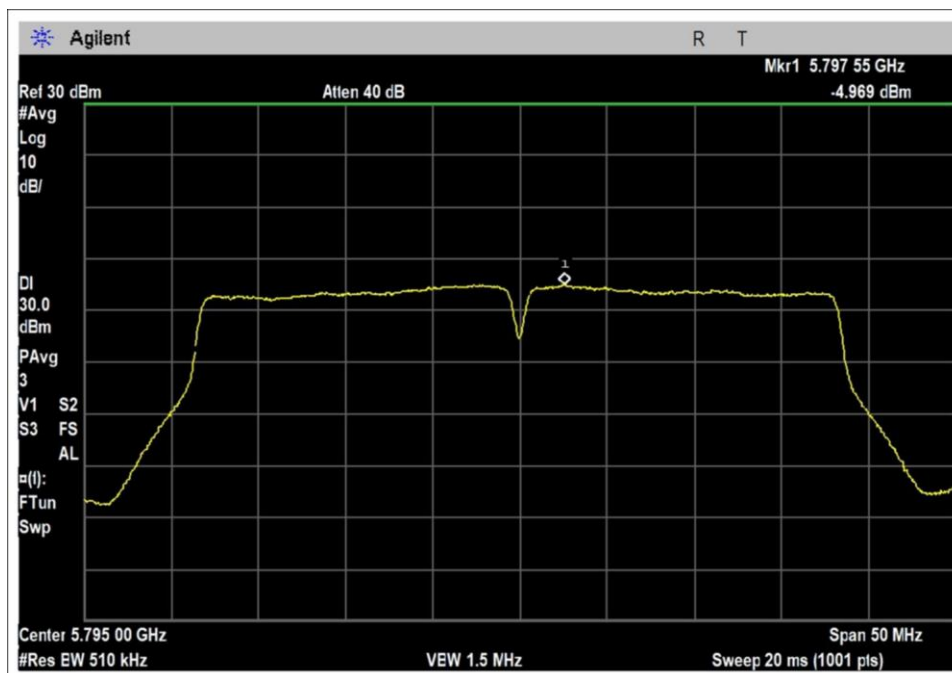
AP0 Low Channel



AP0 High Channel

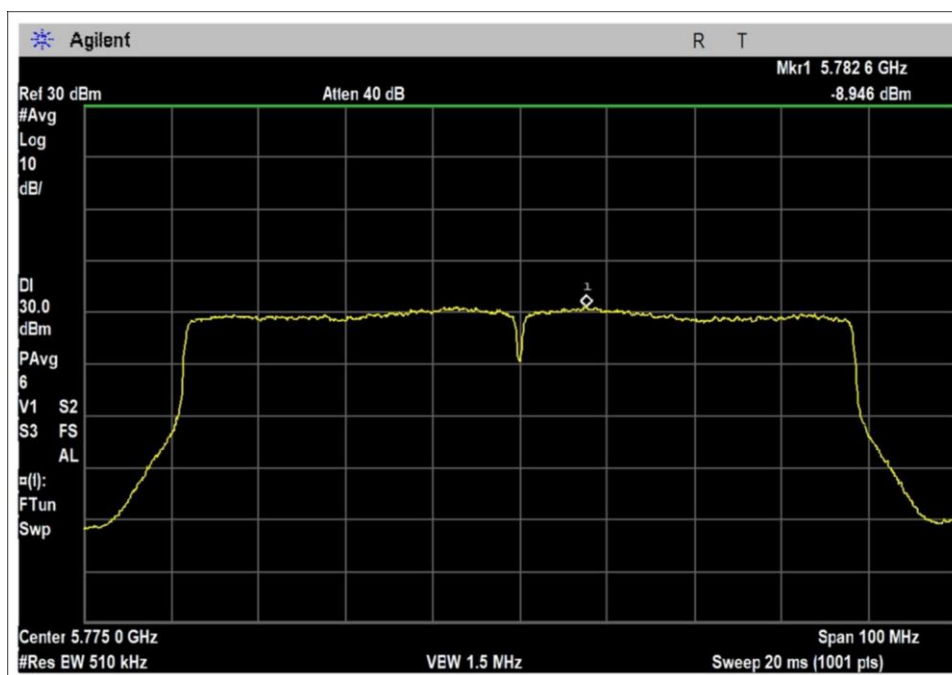


AP1 Low Channel

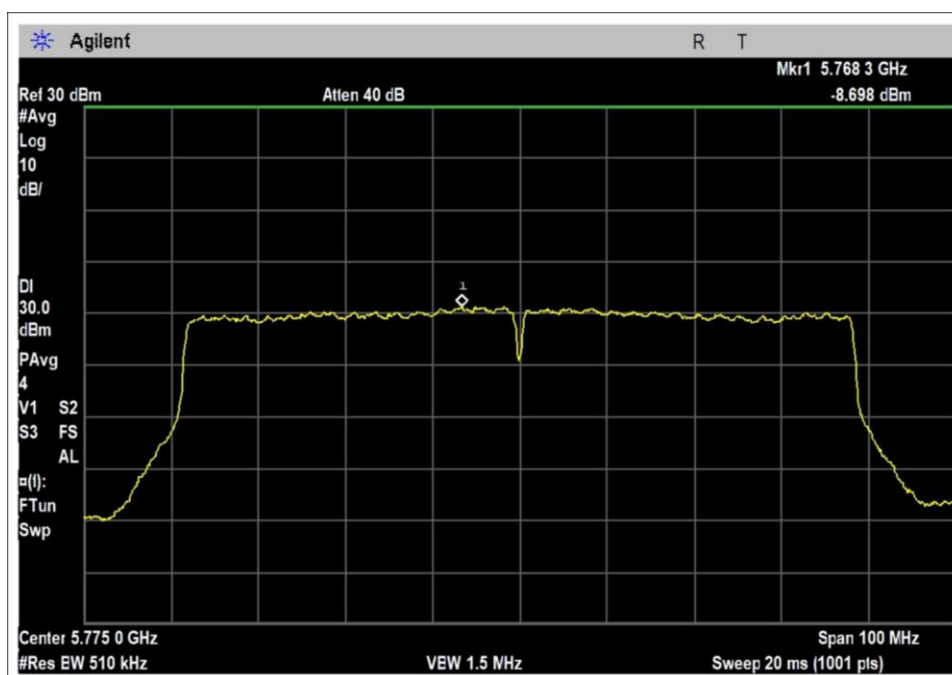


AP1 High Channel

## 802.11ac80 Test Data

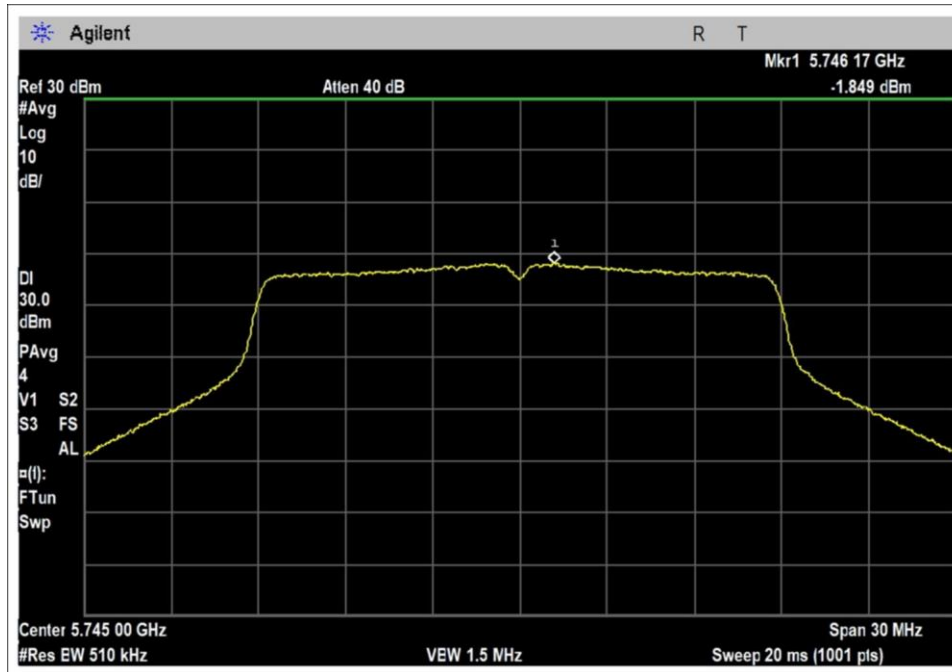


APO

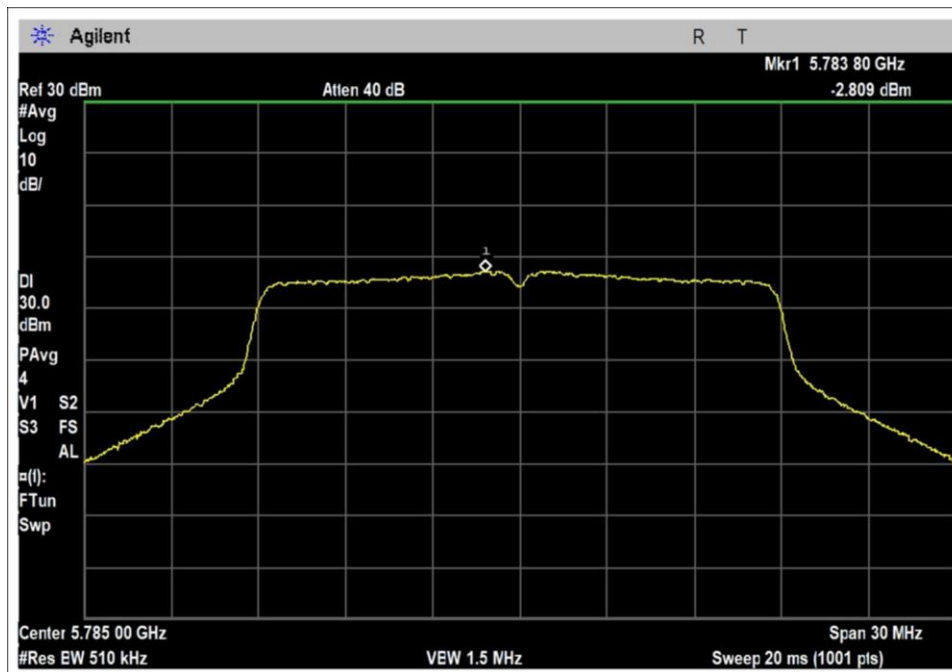


AP1

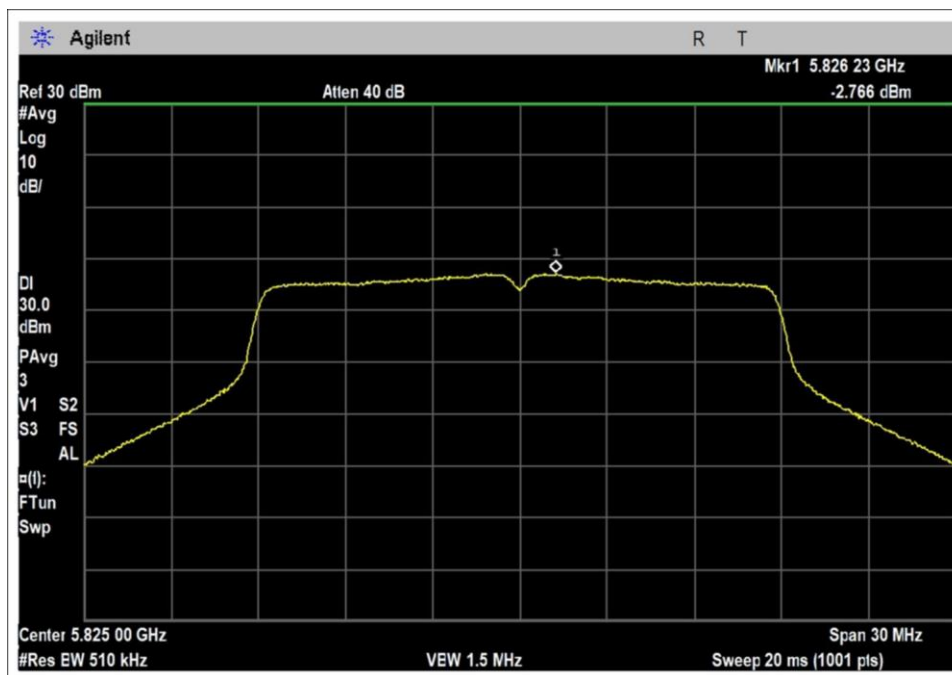
## 802.11n20 Test Data



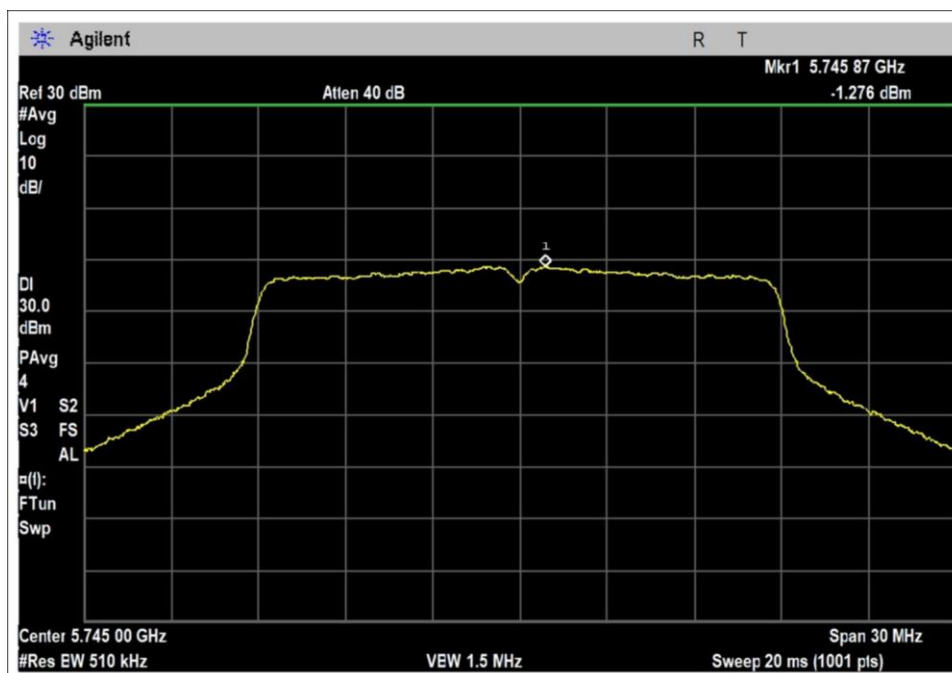
AP0 Low Channel



AP0 Middle Channel

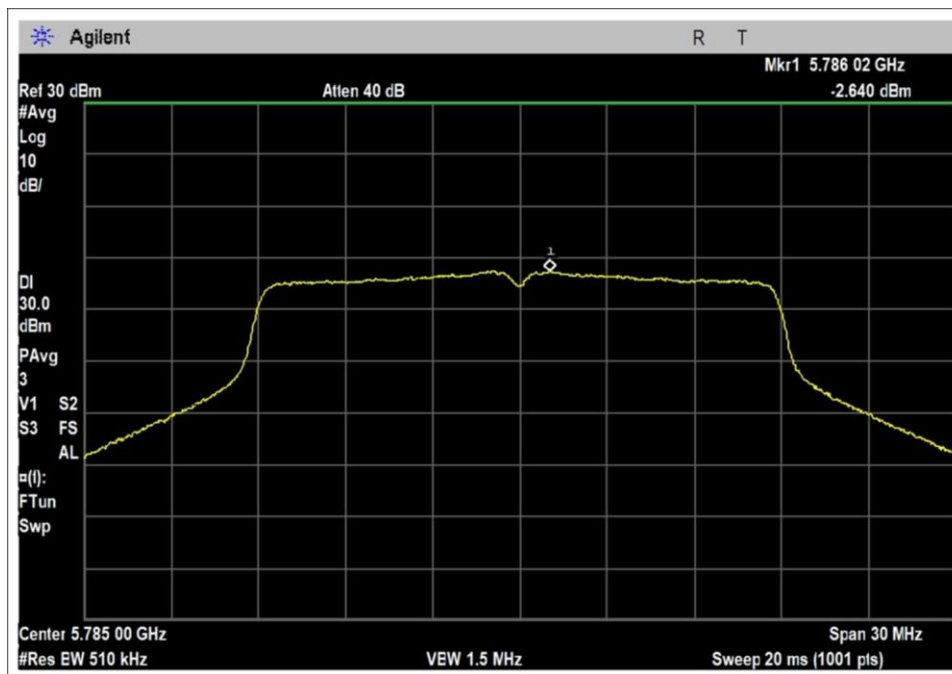


APO High Channel

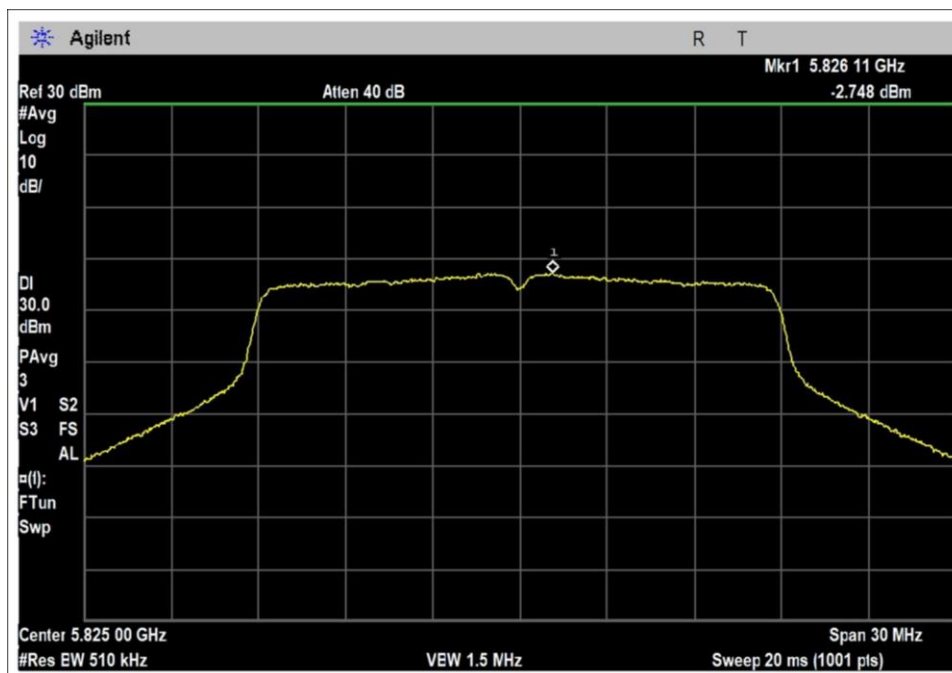


AP1 Low Channel



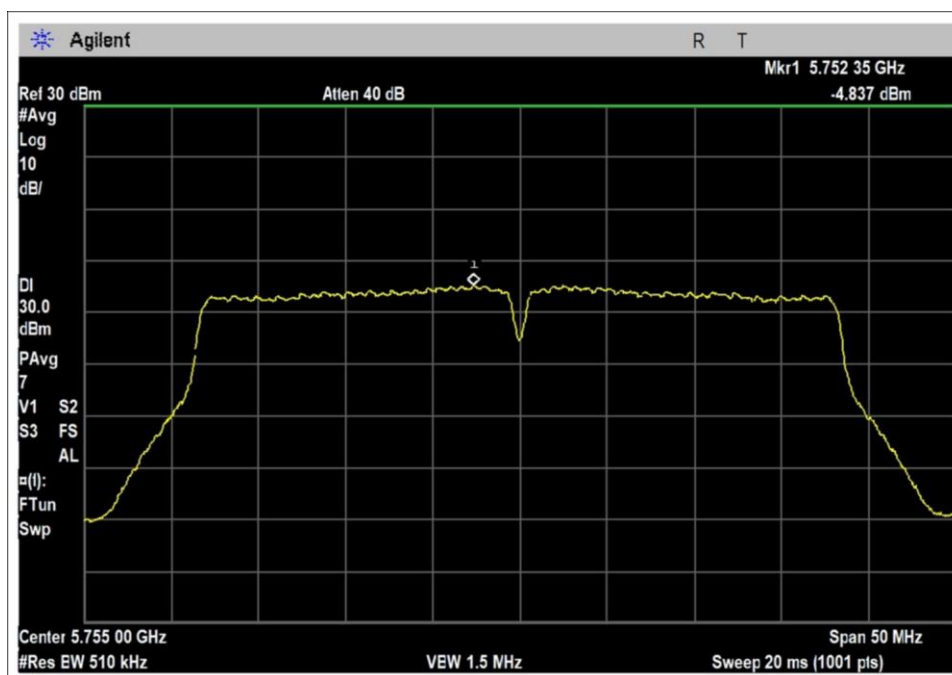


AP1 Middle Channel

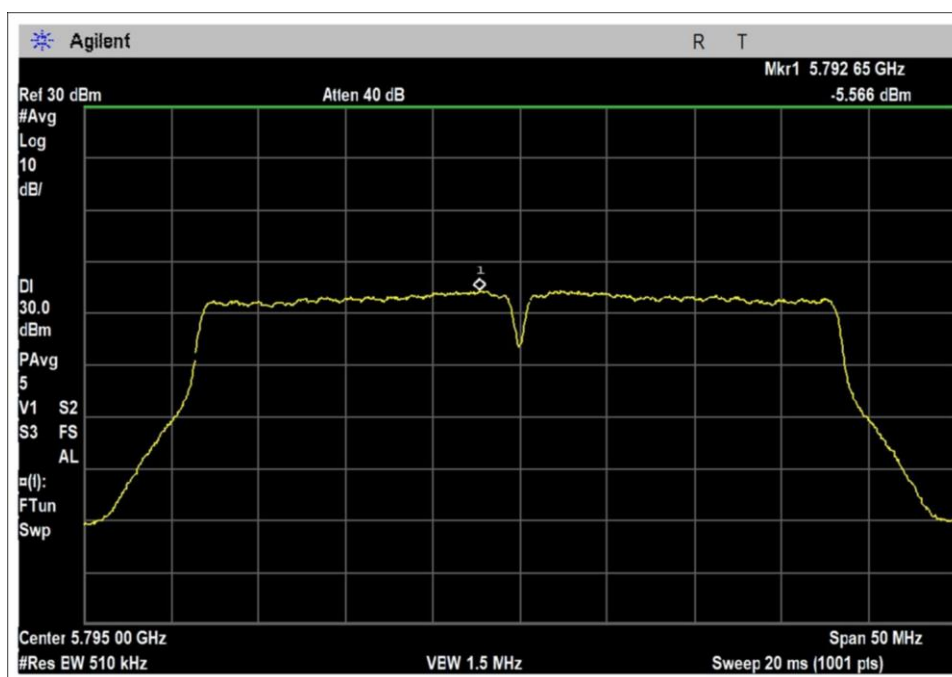


AP1 High Channel

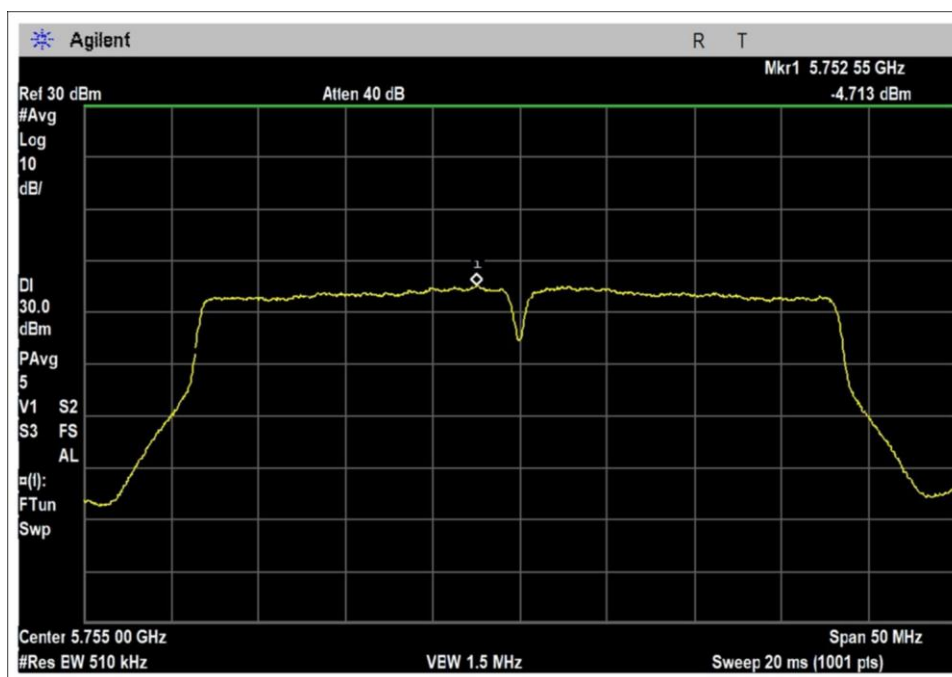
## 802.11n40 Test Data



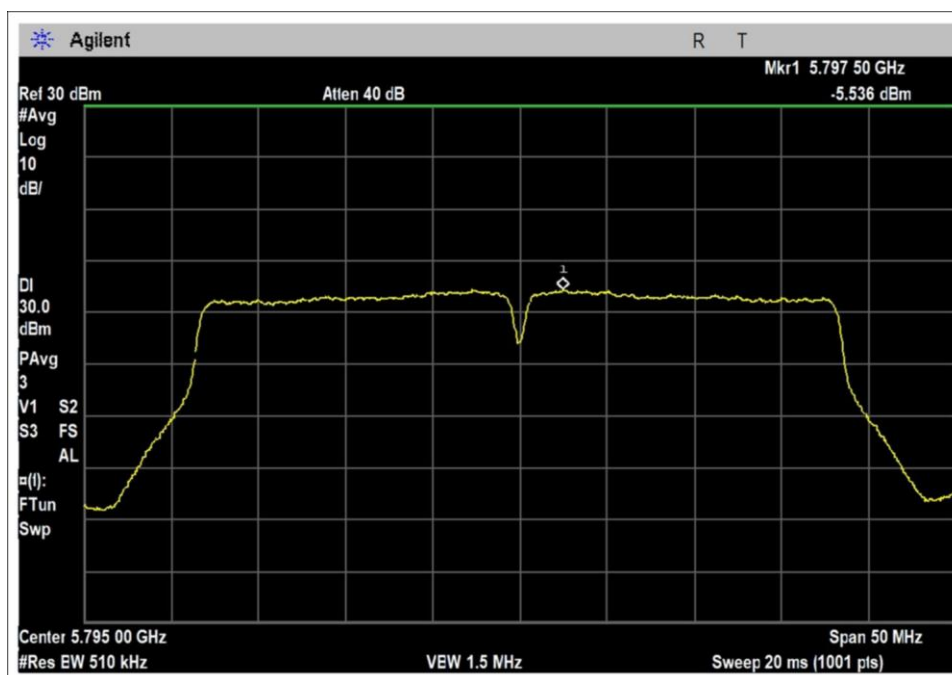
AP0 Low Channel



AP0 High Channel



AP1 Low Channel



AP1 High Channel

Test Setup Photo(s)



## 15.407(b) Radiated Emissions & Band Edge

### Test Setup / Conditions / Data

| Test Setup/Conditions |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |             |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|
| Test Location:        | Bothell Lab C3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Test Engineer: | M. Harrison |
| Test Method:          | ANSI C63.10 (2013), KDB 789033 v02r01 December 14, 2017)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Test Date(s):  | 3/20/2020   |
| Configuration:        | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |             |
|                       | <p>(4) For transmitters operating in the 5.725-5.85 GHz band:</p> <p>(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 )dBm/MHz at the band edge.</p> <p><math>E[dB\mu V/m] = EIRP[dBm] + 95.2</math>, for <math>d = 3</math> m</p> |                |             |

## 15.209 Data

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.209 Radiated Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:45:25  
 Tested By: Matthew Harrison Sequence#: 24  
 Software: EMITest 5.03.12

### Equipment Tested:

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

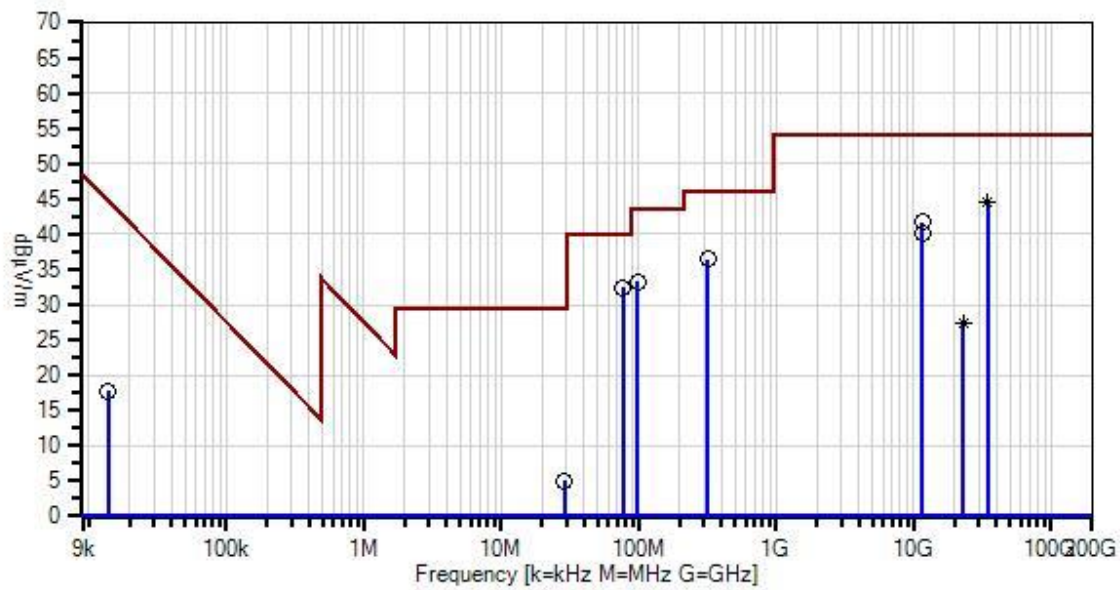
### Support Equipment:

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

### Test Conditions / Notes:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Environmental Conditions:<br/>         Temperature: 22°C<br/>         Humidity: 45%<br/>         Pressure: 101.3 kPa</p> <p>Frequency Range: 9kHz-40GHz<br/>         Frequency tested: 5745, 5785, 5825 MHz</p> <p>Firmware power setting: 14 dBm<br/>         EUT Firmware:<br/>         Protocol /MCS/Modulation: 802.11a, 20MHz BW, 6Mbps (worst-case)</p> <p>Antenna type: Linear Polarized<br/>         Antenna Gain: 5.9 dBi.</p> <p>Duty Cycle: 100% Modulated</p> <p>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br/>         Test Mode: Transmitting<br/>         Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br/>         Modifications Added: None<br/>         Setup: EUT is connected to a Laptop via USB and Audio cable.</p> <p>All data rates investigated, worst-case provided</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. WO#: 102802 Sequence#: 24 Date: 4/2/2020  
15.209 Radiated Emissions Test Distance: 3 Meters Perp



— Sweep Data  
x QP Readings  
Software Version: 5.03.12

— Readings  
\* Average Readings  
— 1 - 15.209 Radiated Emissions

○ Peak Readings  
▼ Ambient

**Test Equipment:**

| ID  | Asset #    | Description                         | Model                   | Calibration Date | Cal Due Date |
|-----|------------|-------------------------------------|-------------------------|------------------|--------------|
|     | AN01467    | Horn Antenna-ANSI C63.5 Calibration | 3115                    | 7/5/2019         | 7/5/2021     |
| T1  | ANP06515   | Cable                               | Heliac                  | 6/29/2018        | 6/29/2020    |
| T2  | ANP06540   | Cable                               | Heliac                  | 8/23/2019        | 8/23/2021    |
|     | AN02872    | Spectrum Analyzer                   | E4440A                  | 11/18/2019       | 11/18/2021   |
|     | AN03540    | Preamp                              | 83017A                  | 5/13/2019        | 5/13/2021    |
|     | ANP07504   | Cable                               | CLU40-KMKM-02.00F       | 1/17/2019        | 1/17/2021    |
| T3  | AN02741    | Active Horn Antenna                 | AMFW-5F-12001800-20-10P | 4/26/2019        | 4/26/2021    |
| T4  | AN02742    | Active Horn Antenna                 | AMFW-5F-18002650-20-10P | 10/16/2018       | 10/16/2020   |
| T5  | AN02763-69 | Waveguide                           | Multiple                | 4/23/2018        | 4/23/2020    |
| T6  | ANP06678   | Cable                               | 32026-29801-29801-144   | 2/20/2020        | 2/20/2022    |
| T7  | ANP07211   | Cable                               | 32026-29801-29801-18    | 8/7/2019         | 8/7/2021     |
| T8  | ANP07212   | Cable                               | 32026-29801-29801-18    | 8/7/2019         | 8/7/2021     |
| T9  | AN02673    | Spectrum Analyzer                   | E4446A                  | 2/22/2019        | 2/22/2021    |
| T10 | AN02743    | Active Horn Antenna                 | AMFW-5F-260400-33-8P    | 4/26/2019        | 4/26/2021    |
| T11 | AN02764-70 | Waveguide                           | Multiple                | 4/23/2018        | 4/23/2020    |
| T12 | AN02307    | Preamp                              | 8447D                   | 1/10/2020        | 1/10/2022    |
| T13 | AN03628    | Biconilog Antenna                   | 3142E                   | 6/11/2019        | 6/11/2021    |
| T14 | ANP06123   | Attenuator                          | 18N-6                   | 4/5/2019         | 4/5/2021     |
| T15 | ANP05305   | Cable                               | ETSI-50T                | 9/6/2019         | 9/6/2021     |
| T16 | ANP05360   | Cable                               | RG214                   | 2/3/2020         | 2/3/2022     |
| T17 | AN00052    | Loop Antenna                        | 6502                    | 5/7/2018         | 5/7/2020     |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq        | Rdng       | T1   | T2    | T3   | T4    | Dist  | Corr         | Spec         | Margin | Polar |
|---|-------------|------------|------|-------|------|-------|-------|--------------|--------------|--------|-------|
|   |             |            | T5   | T6    | T7   | T8    |       |              |              |        |       |
|   |             |            | T9   | T10   | T11  | T12   |       |              |              |        |       |
|   |             |            | T13  | T14   | T15  | T16   |       |              |              |        |       |
|   |             |            | T17  |       |      |       |       |              |              |        |       |
|   | MHz         | dB $\mu$ V | dB   | dB    | dB   | dB    | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1 | 76.400M     | 46.5       | +0.0 | +0.1  | +0.0 | +0.0  | +0.0  | 32.4         | 40.0         | -7.6   | Vert  |
|   |             |            | +0.0 | +0.0  | +0.0 | +0.0  |       |              |              |        |       |
|   |             |            | +0.0 | +0.0  | +0.0 | -27.8 |       |              |              |        |       |
|   |             |            | +6.9 | +5.8  | +0.4 | +0.5  |       |              |              |        |       |
|   |             |            | +0.0 |       |      |       |       |              |              |        |       |
| 2 | 34470.000 M | 24.4       | +0.0 | +0.0  | +0.0 | +0.0  | +0.0  | 44.6         | 54.0         | -9.4   | Horiz |
|   |             |            | +0.0 | +12.3 | +1.2 | +1.5  |       |              |              |        |       |
|   | Ave         |            | +0.0 | +2.1  | +3.1 | +0.0  |       |              |              |        |       |
|   |             |            | +0.0 | +0.0  | +0.0 | +0.0  |       |              |              |        |       |
|   |             |            | +0.0 |       |      |       |       |              |              |        |       |



|   |                |      |       |       |       |       |       |      |      |       |       |
|---|----------------|------|-------|-------|-------|-------|-------|------|------|-------|-------|
| ^ | 34470.000<br>M | 39.6 | +0.0  | +0.0  | +0.0  | +0.0  | +0.0  | 59.8 | 54.0 | +5.8  | Horiz |
|   |                |      | +0.0  | +12.3 | +1.2  | +1.5  |       |      |      |       |       |
|   |                |      | +0.0  | +2.1  | +3.1  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  |       |       |       |       |      |      |       |       |
| 4 | 317.600M       | 41.6 | +0.0  | +0.2  | +0.0  | +0.0  | +0.0  | 36.5 | 46.0 | -9.5  | Horiz |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | -27.1 |       |      |      |       |       |
|   |                |      | +14.0 | +5.8  | +0.9  | +1.1  |       |      |      |       |       |
|   |                |      | +0.0  |       |       |       |       |      |      |       |       |
| 5 | 98.500M        | 45.9 | +0.0  | +0.1  | +0.0  | +0.0  | +0.0  | 33.2 | 43.5 | -10.3 | Vert  |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | -27.7 |       |      |      |       |       |
|   |                |      | +8.0  | +5.8  | +0.5  | +0.6  |       |      |      |       |       |
|   |                |      | +0.0  |       |       |       |       |      |      |       |       |
| 6 | 11645.650<br>M | 46.6 | +6.7  | +1.7  | -13.3 | +0.0  | +0.0  | 41.7 | 54.0 | -12.3 | Horiz |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  |       |       |       |       |      |      |       |       |
| 7 | 11570.240<br>M | 46.7 | +6.6  | +1.6  | -13.2 | +0.0  | +0.0  | 41.7 | 54.0 | -12.3 | Horiz |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  |       |       |       |       |      |      |       |       |
| 8 | 11490.240<br>M | 45.2 | +6.6  | +1.6  | -13.2 | +0.0  | +0.0  | 40.2 | 54.0 | -13.8 | Horiz |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  |       |       |       |       |      |      |       |       |
| 9 | 28.896M        | 18.8 | +0.3  | +0.1  | +0.0  | +0.0  | -20.0 | 5.1  | 29.5 | -24.4 | Perp  |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|   |                |      | +5.9  |       |       |       |       |      |      |       |       |

|    |           |      |       |      |      |       |       |      |      |       |       |
|----|-----------|------|-------|------|------|-------|-------|------|------|-------|-------|
| 10 | 22980.000 | 29.9 | +0.0  | +0.0 | +0.0 | -15.8 | +0.0  | 27.4 | 54.0 | -26.6 | Horiz |
|    | M         |      | +1.7  | +9.5 | +0.8 | +1.3  |       |      |      |       |       |
|    | Ave       |      | +0.0  | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0  | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0  |      |      |       |       |      |      |       |       |
| ^  | 22980.000 | 46.5 | +0.0  | +0.0 | +0.0 | -15.8 | +0.0  | 44.0 | 54.0 | -10.0 | Horiz |
|    | M         |      | +1.7  | +9.5 | +0.8 | +1.3  |       |      |      |       |       |
|    |           |      | +0.0  | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0  | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0  |      |      |       |       |      |      |       |       |
| 12 | 13.794k   | 44.6 | +0.0  | +0.0 | +0.0 | +0.0  | -40.0 | 17.7 | 44.8 | -27.1 | Perp  |
|    |           |      | +0.0  | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0  | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0  | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0  |      |      |       |       |      |      |       |       |
|    |           |      | +13.1 |      |      |       |       |      |      |       |       |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.209 Radiated Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:40:13  
 Tested By: Matthew Harrison Sequence#: 23  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

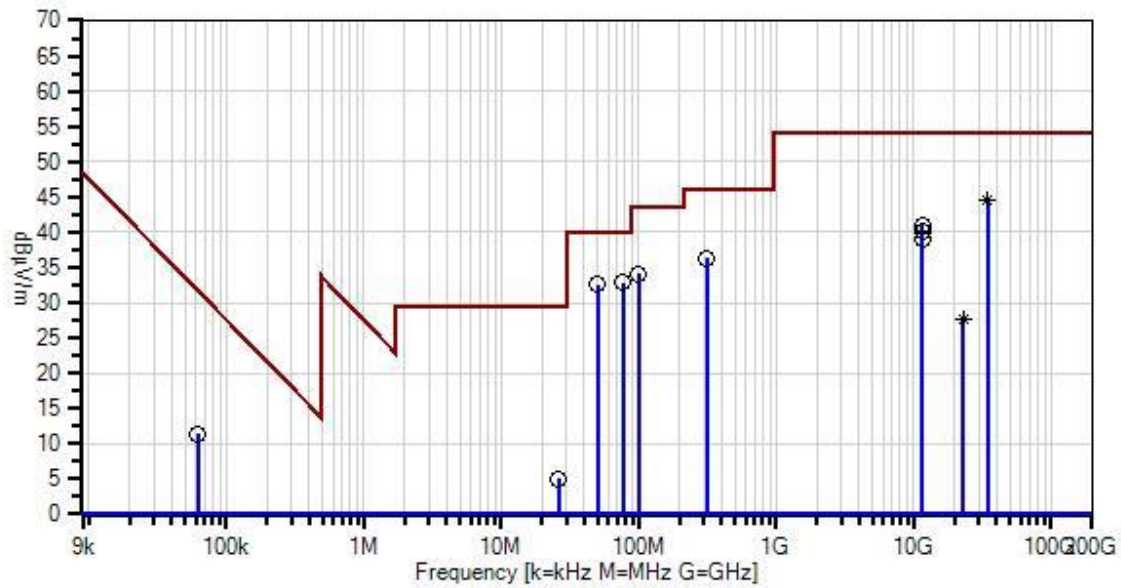
***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 9kHz-40GHz<br>Frequency tested: 5745, 5785, 5825 MHz<br><br>Firmware power setting: 14 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11ac, 20MHz BW, MCS0 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. WO#: 102802 Sequence#: 23 Date: 4/2/2020  
15.209 Radiated Emissions Test Distance: 3 Meters Perp



— Sweep Data  
x QP Readings  
Software Version: 5.03.12

— Readings  
\* Average Readings  
— 1 - 15.209 Radiated Emissions

○ Peak Readings  
▼ Ambient

**Test Equipment:**

| ID  | Asset #    | Description                         | Model                   | Calibration Date | Cal Due Date |
|-----|------------|-------------------------------------|-------------------------|------------------|--------------|
|     | AN01467    | Horn Antenna-ANSI C63.5 Calibration | 3115                    | 7/5/2019         | 7/5/2021     |
| T1  | ANP06515   | Cable                               | Heliac                  | 6/29/2018        | 6/29/2020    |
| T2  | ANP06540   | Cable                               | Heliac                  | 8/23/2019        | 8/23/2021    |
|     | AN02872    | Spectrum Analyzer                   | E4440A                  | 11/18/2019       | 11/18/2021   |
|     | AN03540    | Preamplifier                        | 83017A                  | 5/13/2019        | 5/13/2021    |
|     | ANP07504   | Cable                               | CLU40-KMKM-02.00F       | 1/17/2019        | 1/17/2021    |
| T3  | AN02741    | Active Horn Antenna                 | AMFW-5F-12001800-20-10P | 4/26/2019        | 4/26/2021    |
| T4  | AN02742    | Active Horn Antenna                 | AMFW-5F-18002650-20-10P | 10/16/2018       | 10/16/2020   |
| T5  | AN02763-69 | Waveguide                           | Multiple                | 4/23/2018        | 4/23/2020    |
| T6  | ANP06678   | Cable                               | 32026-29801-29801-144   | 2/20/2020        | 2/20/2022    |
| T7  | ANP07211   | Cable                               | 32026-29801-29801-18    | 8/7/2019         | 8/7/2021     |
| T8  | ANP07212   | Cable                               | 32026-29801-29801-18    | 8/7/2019         | 8/7/2021     |
| T9  | AN02673    | Spectrum Analyzer                   | E4446A                  | 2/22/2019        | 2/22/2021    |
| T10 | AN02743    | Active Horn Antenna                 | AMFW-5F-260400-33-8P    | 4/26/2019        | 4/26/2021    |
| T11 | AN02764-70 | Waveguide                           | Multiple                | 4/23/2018        | 4/23/2020    |
| T12 | AN02307    | Preamplifier                        | 8447D                   | 1/10/2020        | 1/10/2022    |
| T13 | AN03628    | Biconilog Antenna                   | 3142E                   | 6/11/2019        | 6/11/2021    |
| T14 | ANP06123   | Attenuator                          | 18N-6                   | 4/5/2019         | 4/5/2021     |
| T15 | ANP05305   | Cable                               | ETSI-50T                | 9/6/2019         | 9/6/2021     |
| T16 | ANP05360   | Cable                               | RG214                   | 2/3/2020         | 2/3/2022     |
| T17 | AN00052    | Loop Antenna                        | 6502                    | 5/7/2018         | 5/7/2020     |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq    | Rdng | T1   | T2   | T3   | T4    | Dist  | Corr   | Spec   | Margin | Polar |
|---|---------|------|------|------|------|-------|-------|--------|--------|--------|-------|
|   |         |      | T5   | T6   | T7   | T8    |       |        |        |        |       |
|   |         |      | T9   | T10  | T11  | T12   |       |        |        |        |       |
|   |         |      | T13  | T14  | T15  | T16   |       |        |        |        |       |
|   |         |      | T17  |      |      |       |       |        |        |        |       |
|   | MHz     | dBμV | dB   | dB   | dB   | dB    | Table | dBμV/m | dBμV/m | dB     | Ant   |
| 1 | 76.400M | 47.0 | +0.0 | +0.1 | +0.0 | +0.0  | +0.0  | 32.9   | 40.0   | -7.1   | Vert  |
|   |         |      | +0.0 | +0.0 | +0.0 | +0.0  |       |        |        |        |       |
|   |         |      | +0.0 | +0.0 | +0.0 | -27.8 |       |        |        |        |       |
|   |         |      | +6.9 | +5.8 | +0.4 | +0.5  |       |        |        |        |       |
|   |         |      | +0.0 |      |      |       |       |        |        |        |       |

|    |                       |      |       |       |       |       |       |      |      |       |       |
|----|-----------------------|------|-------|-------|-------|-------|-------|------|------|-------|-------|
| 2  | 50.300M               | 46.5 | +0.0  | +0.1  | +0.0  | +0.0  | +0.0  | 32.6 | 40.0 | -7.4  | Vert  |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | -27.9 |       |      |      |       |       |
|    |                       |      | +7.3  | +5.8  | +0.4  | +0.4  |       |      |      |       |       |
|    |                       |      | +0.0  |       |       |       |       |      |      |       |       |
| 3  | 34470.000<br>M<br>Ave | 24.4 | +0.0  | +0.0  | +0.0  | +0.0  | +0.0  | 44.6 | 54.0 | -9.4  | Horiz |
|    |                       |      | +0.0  | +12.3 | +1.2  | +1.5  |       |      |      |       |       |
|    |                       |      | +0.0  | +2.1  | +3.1  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  |       |       |       |       |      |      |       |       |
| ^  | 34470.000<br>M        | 38.2 | +0.0  | +0.0  | +0.0  | +0.0  | +0.0  | 58.4 | 54.0 | +4.4  | Horiz |
|    |                       |      | +0.0  | +12.3 | +1.2  | +1.5  |       |      |      |       |       |
|    |                       |      | +0.0  | +2.1  | +3.1  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  |       |       |       |       |      |      |       |       |
| 5  | 100.500M              | 46.6 | +0.0  | +0.1  | +0.0  | +0.0  | +0.0  | 34.0 | 43.5 | -9.5  | Vert  |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | -27.7 |       |      |      |       |       |
|    |                       |      | +8.1  | +5.8  | +0.5  | +0.6  |       |      |      |       |       |
|    |                       |      | +0.0  |       |       |       |       |      |      |       |       |
| 6  | 314.700M              | 41.6 | +0.0  | +0.2  | +0.0  | +0.0  | +0.0  | 36.3 | 46.0 | -9.7  | Horiz |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | -27.1 |       |      |      |       |       |
|    |                       |      | +13.8 | +5.8  | +0.9  | +1.1  |       |      |      |       |       |
|    |                       |      | +0.0  |       |       |       |       |      |      |       |       |
| 7  | 11649.280<br>M        | 45.9 | +6.7  | +1.7  | -13.3 | +0.0  | +0.0  | 41.0 | 54.0 | -13.0 | Horiz |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  |       |       |       |       |      |      |       |       |
| 8  | 11570.870<br>M        | 45.1 | +6.6  | +1.6  | -13.2 | +0.0  | +0.0  | 40.1 | 54.0 | -13.9 | Horiz |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  |       |       |       |       |      |      |       |       |
| 9  | 11492.790<br>M        | 43.9 | +6.6  | +1.6  | -13.2 | +0.0  | +0.0  | 38.9 | 54.0 | -15.1 | Horiz |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  |       |       |       |       |      |      |       |       |
| 10 | 62.439k               | 41.7 | +0.0  | +0.0  | +0.0  | +0.0  | -40.0 | 11.4 | 31.7 | -20.3 | Perp  |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +0.0  | +0.0  | +0.0  | +0.0  |       |      |      |       |       |
|    |                       |      | +9.7  |       |       |       |       |      |      |       |       |

|    |                |      |      |      |      |       |       |      |      |       |       |
|----|----------------|------|------|------|------|-------|-------|------|------|-------|-------|
| 11 | 26.149M        | 18.0 | +0.3 | +0.1 | +0.0 | +0.0  | -20.0 | 5.1  | 29.5 | -24.4 | Perp  |
|    |                |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |                |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |                |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |                |      | +6.7 |      |      |       |       |      |      |       |       |
| 12 | 22980.000<br>M | 30.1 | +0.0 | +0.0 | +0.0 | -15.8 | +0.0  | 27.6 | 54.0 | -26.4 | Horiz |
|    | Ave            |      | +1.7 | +9.5 | +0.8 | +1.3  |       |      |      |       |       |
|    |                |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |                |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |                |      | +0.0 |      |      |       |       |      |      |       |       |
| ^  | 22980.000<br>M | 43.6 | +0.0 | +0.0 | +0.0 | -15.8 | +0.0  | 41.1 | 54.0 | -12.9 | Horiz |
|    |                |      | +1.7 | +9.5 | +0.8 | +1.3  |       |      |      |       |       |
|    |                |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |                |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |                |      | +0.0 |      |      |       |       |      |      |       |       |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.209 Radiated Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:37:10  
 Tested By: Matthew Harrison Sequence#: 22  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Support Equipment:***

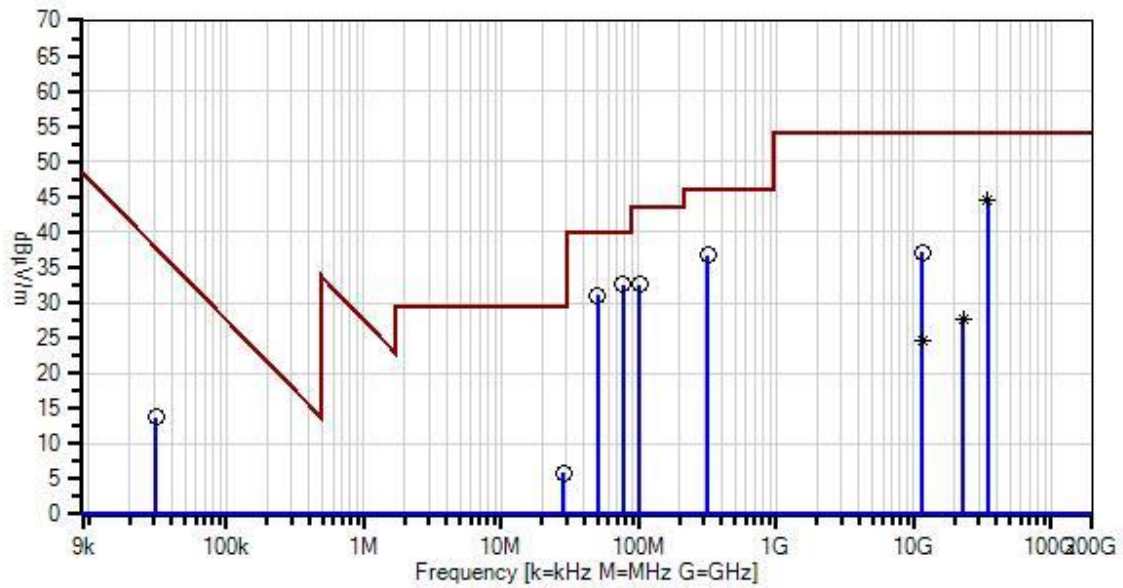
| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 9kHz-40GHz<br>Frequency tested: 5755, 5795 MHz<br><br>Firmware power setting: 13 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11ac, 40MHz BW, MCS0 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



Nalloy, LLC. WO#: 102802 Sequence#: 22 Date: 4/2/2020  
15.209 Radiated Emissions Test Distance: 3 Meters Horiz



— Sweep Data  
x QP Readings  
Software Version: 5.03.12

— Readings  
\* Average Readings  
— 1 - 15.209 Radiated Emissions

○ Peak Readings  
▼ Ambient

**Test Equipment:**

| <b>ID</b> | <b>Asset #</b> | <b>Description</b>                         | <b>Model</b>                    | <b>Calibration Date</b> | <b>Cal Due Date</b> |
|-----------|----------------|--------------------------------------------|---------------------------------|-------------------------|---------------------|
|           | AN01467        | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                            | 7/5/2019                | 7/5/2021            |
| T1        | ANP06515       | Cable                                      | Heliac                          | 6/29/2018               | 6/29/2020           |
| T2        | ANP06540       | Cable                                      | Heliac                          | 8/23/2019               | 8/23/2021           |
|           | AN02872        | Spectrum Analyzer                          | E4440A                          | 11/18/2019              | 11/18/2021          |
|           | AN03540        | Preamp                                     | 83017A                          | 5/13/2019               | 5/13/2021           |
|           | ANP07504       | Cable                                      | CLU40-<br>KMKM-02.00F           | 1/17/2019               | 1/17/2021           |
| T3        | AN02741        | Active Horn<br>Antenna                     | AMFW-5F-<br>12001800-20-<br>10P | 4/26/2019               | 4/26/2021           |
| T4        | AN02742        | Active Horn<br>Antenna                     | AMFW-5F-<br>18002650-20-<br>10P | 10/16/2018              | 10/16/2020          |
| T5        | AN02763-69     | Waveguide                                  | Multiple                        | 4/23/2018               | 4/23/2020           |
| T6        | ANP06678       | Cable                                      | 32026-29801-<br>29801-144       | 2/20/2020               | 2/20/2022           |
| T7        | ANP07211       | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019                | 8/7/2021            |
| T8        | ANP07212       | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019                | 8/7/2021            |
|           | AN02673        | Spectrum Analyzer                          | E4446A                          | 2/22/2019               | 2/22/2021           |
| T9        | AN02743        | Active Horn<br>Antenna                     | AMFW-5F-<br>260400-33-8P        | 4/26/2019               | 4/26/2021           |
| T10       | AN02764-70     | Waveguide                                  | Multiple                        | 4/23/2018               | 4/23/2020           |
| T11       | AN02307        | Preamp                                     | 8447D                           | 1/10/2020               | 1/10/2022           |
| T12       | AN03628        | Biconilog Antenna                          | 3142E                           | 6/11/2019               | 6/11/2021           |
| T13       | ANP06123       | Attenuator                                 | 18N-6                           | 4/5/2019                | 4/5/2021            |
| T14       | ANP05305       | Cable                                      | ETSI-50T                        | 9/6/2019                | 9/6/2021            |
| T15       | ANP05360       | Cable                                      | RG214                           | 2/3/2020                | 2/3/2022            |
| T16       | AN00052        | Loop Antenna                               | 6502                            | 5/7/2018                | 5/7/2020            |

**Measurement Data:** Reading listed by margin. Test Distance: 3 Meters

| # | Freq                  | Rdng       | T1<br>T5<br>T9<br>T13        | T2<br>T6<br>T10<br>T14        | T3<br>T7<br>T11<br>T15        | T4<br>T8<br>T12<br>T16        | Dist  | Corr         | Spec         | Margin | Polar |
|---|-----------------------|------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------|--------------|--------------|--------|-------|
|   | MHz                   | dB $\mu$ V | dB                           | dB                            | dB                            | dB                            | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1 | 76.400M               | 46.7       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.1<br>+0.0<br>+0.0<br>+0.4  | +0.0<br>+0.0<br>-27.8<br>+0.5 | +0.0<br>+0.0<br>+6.9<br>+0.0  | +0.0  | 32.6         | 40.0         | -7.4   | Vert  |
| 2 | 50.300M               | 45.0       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.1<br>+0.0<br>+0.0<br>+0.4  | +0.0<br>+0.0<br>-27.9<br>+0.4 | +0.0<br>+0.0<br>+7.3<br>+0.0  | +0.0  | 31.1         | 40.0         | -8.9   | Vert  |
| 3 | 318.600M              | 41.9       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.2<br>+0.0<br>+0.0<br>+0.9  | +0.0<br>+0.0<br>-27.1<br>+1.1 | +0.0<br>+0.0<br>+14.0<br>+0.0 | +0.0  | 36.8         | 46.0         | -9.2   | Horiz |
| 4 | 34530.000<br>M<br>Ave | 24.5       | +0.0<br>+0.0<br>+2.1<br>+0.0 | +0.0<br>+12.3<br>+3.1<br>+0.0 | +0.0<br>+1.2<br>+0.0<br>+0.0  | +0.0<br>+1.5<br>+0.0<br>+0.0  | +0.0  | 44.7         | 54.0         | -9.3   | Horiz |
| ^ | 34530.000<br>M        | 38.6       | +0.0<br>+0.0<br>+2.1<br>+0.0 | +0.0<br>+12.3<br>+3.1<br>+0.0 | +0.0<br>+1.2<br>+0.0<br>+0.0  | +0.0<br>+1.5<br>+0.0<br>+0.0  | +0.0  | 58.8         | 54.0         | +4.8   | Horiz |
| 6 | 101.400M              | 45.2       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.1<br>+0.0<br>+0.0<br>+0.5  | +0.0<br>+0.0<br>-27.7<br>+0.6 | +0.0<br>+0.0<br>+8.1<br>+0.0  | +0.0  | 32.6         | 43.5         | -10.9  | Vert  |
| 7 | 11590.000<br>M        | 42.1       | +6.6<br>+0.0<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0<br>+0.0  | -13.2<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0  | 37.1         | 54.0         | -16.9  | Horiz |
| 8 | 28.269M               | 19.4       | +0.3<br>+0.0<br>+0.0<br>+0.0 | +0.1<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+6.1  | -20.0 | 5.9          | 29.5         | -23.6  | Horiz |
| 9 | 30.996k               | 42.8       | +0.0<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+10.9 | -40.0 | 13.7         | 37.8         | -24.1  | Horiz |

|    |           |      |      |      |       |       |      |      |      |       |       |
|----|-----------|------|------|------|-------|-------|------|------|------|-------|-------|
| 10 | 23020.000 | 30.1 | +0.0 | +0.0 | +0.0  | -15.7 | +0.0 | 27.7 | 54.0 | -26.3 | Horiz |
|    | M         |      | +1.7 | +9.5 | +0.8  | +1.3  |      |      |      |       |       |
|    | Ave       |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |
| ^  | 23020.000 | 45.5 | +0.0 | +0.0 | +0.0  | -15.7 | +0.0 | 43.1 | 54.0 | -10.9 | Horiz |
|    | M         |      | +1.7 | +9.5 | +0.8  | +1.3  |      |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |
| 12 | 11529.700 | 29.7 | +6.6 | +1.6 | -13.2 | +0.0  | +0.0 | 24.7 | 54.0 | -29.3 | Horiz |
|    | M         |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |
|    | Ave       |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |
| ^  | 11529.700 | 40.8 | +6.6 | +1.6 | -13.2 | +0.0  | +0.0 | 35.8 | 54.0 | -18.2 | Horiz |
|    | M         |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0  |      |      |      |       |       |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.209 Radiated Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:34:09  
 Tested By: Matthew Harrison Sequence#: 21  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

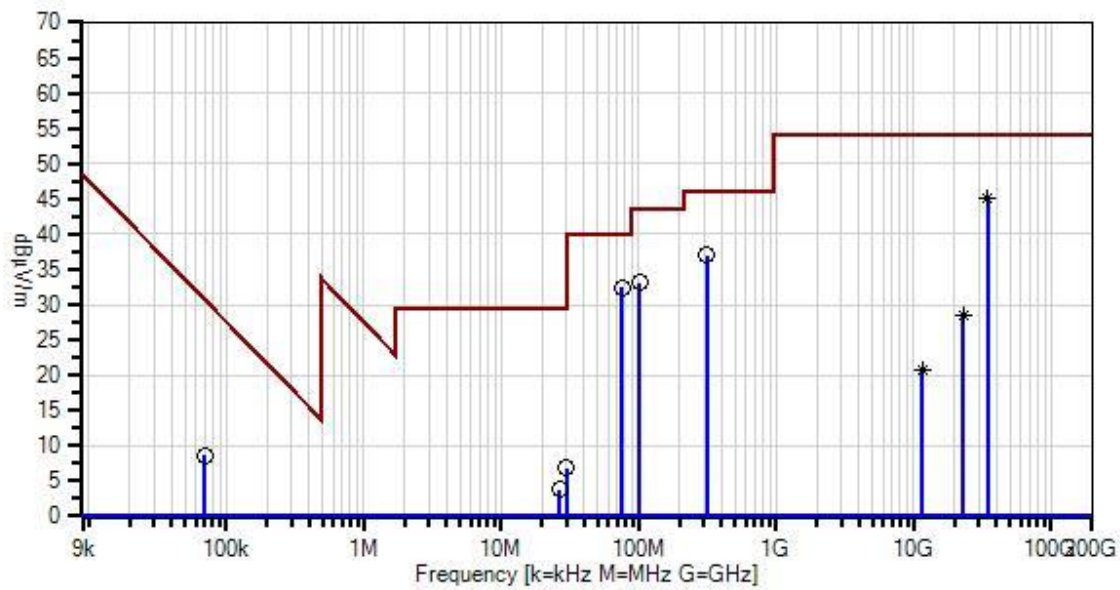
***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 9kHz-40GHz<br>Frequency tested: 5775 MHz<br><br>Firmware power setting: 13 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11ac, 80MHz BW, MCS0 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. WO#: 102802 Sequence#: 21 Date: 4/2/2020  
15.209 Radiated Emissions Test Distance: 3 Meters Perp



— Sweep Data  
x QP Readings  
Software Version: 5.03.12

— Readings  
\* Average Readings  
— 1 - 15.209 Radiated Emissions

○ Peak Readings  
▼ Ambient

**Test Equipment:**

| <b>ID</b> | <b>Asset #</b> | <b>Description</b>                         | <b>Model</b>                    | <b>Calibration Date</b> | <b>Cal Due Date</b> |
|-----------|----------------|--------------------------------------------|---------------------------------|-------------------------|---------------------|
|           | AN01467        | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                            | 7/5/2019                | 7/5/2021            |
| T1        | ANP06515       | Cable                                      | Heliac                          | 6/29/2018               | 6/29/2020           |
| T2        | ANP06540       | Cable                                      | Heliac                          | 8/23/2019               | 8/23/2021           |
|           | AN02872        | Spectrum Analyzer                          | E4440A                          | 11/18/2019              | 11/18/2021          |
|           | AN03540        | Preamplifier                               | 83017A                          | 5/13/2019               | 5/13/2021           |
|           | ANP07504       | Cable                                      | CLU40-<br>KMKM-02.00F           | 1/17/2019               | 1/17/2021           |
| T3        | AN02741        | Active Horn<br>Antenna                     | AMFW-5F-<br>12001800-20-<br>10P | 4/26/2019               | 4/26/2021           |
| T4        | AN02742        | Active Horn<br>Antenna                     | AMFW-5F-<br>18002650-20-<br>10P | 10/16/2018              | 10/16/2020          |
| T5        | AN02763-69     | Waveguide                                  | Multiple                        | 4/23/2018               | 4/23/2020           |
| T6        | ANP06678       | Cable                                      | 32026-29801-<br>29801-144       | 2/20/2020               | 2/20/2022           |
| T7        | ANP07211       | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019                | 8/7/2021            |
| T8        | ANP07212       | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019                | 8/7/2021            |
|           | AN02673        | Spectrum Analyzer                          | E4446A                          | 2/22/2019               | 2/22/2021           |
| T9        | AN02743        | Active Horn<br>Antenna                     | AMFW-5F-<br>260400-33-8P        | 4/26/2019               | 4/26/2021           |
| T10       | AN02764-70     | Waveguide                                  | Multiple                        | 4/23/2018               | 4/23/2020           |
| T11       | AN02307        | Preamplifier                               | 8447D                           | 1/10/2020               | 1/10/2022           |
| T12       | AN03628        | Biconilog Antenna                          | 3142E                           | 6/11/2019               | 6/11/2021           |
| T13       | ANP06123       | Attenuator                                 | 18N-6                           | 4/5/2019                | 4/5/2021            |
| T14       | ANP05305       | Cable                                      | ETSI-50T                        | 9/6/2019                | 9/6/2021            |
| T15       | ANP05360       | Cable                                      | RG214                           | 2/3/2020                | 2/3/2022            |
| T16       | AN00052        | Loop Antenna                               | 6502                            | 5/7/2018                | 5/7/2020            |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq                  | Rdng       | T1<br>T5<br>T9<br>T13        | T2<br>T6<br>T10<br>T14        | T3<br>T7<br>T11<br>T15        | T4<br>T8<br>T12<br>T16        | Dist  | Corr         | Spec         | Margin | Polar |
|---|-----------------------|------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------|--------------|--------------|--------|-------|
|   | MHz                   | dB $\mu$ V | dB                           | dB                            | dB                            | dB                            | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1 | 75.400M               | 46.4       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.1<br>+0.0<br>+0.0<br>+0.4  | +0.0<br>+0.0<br>-27.8<br>+0.5 | +0.0<br>+0.0<br>+7.0<br>+0.0  | +0.0  | 32.4         | 40.0         | -7.6   | Vert  |
| 2 | 34650.000<br>M<br>Ave | 24.7       | +0.0<br>+0.0<br>+2.3<br>+0.0 | +0.0<br>+12.4<br>+3.1<br>+0.0 | +0.0<br>+1.2<br>+0.0<br>+0.0  | +0.0<br>+1.5<br>+0.0<br>+0.0  | +0.0  | 45.2         | 54.0         | -8.8   | Horiz |
| ^ | 34650.000<br>M        | 39.2       | +0.0<br>+0.0<br>+2.3<br>+0.0 | +0.0<br>+12.4<br>+3.1<br>+0.0 | +0.0<br>+1.2<br>+0.0<br>+0.0  | +0.0<br>+1.5<br>+0.0<br>+0.0  | +0.0  | 59.7         | 54.0         | +5.7   | Horiz |
| 4 | 313.800M              | 42.3       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.2<br>+0.0<br>+0.0<br>+0.9  | +0.0<br>+0.0<br>-27.1<br>+1.1 | +0.0<br>+0.0<br>+13.8<br>+0.0 | +0.0  | 37.0         | 46.0         | -9.0   | Horiz |
| 5 | 101.400M              | 45.8       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.1<br>+0.0<br>+0.0<br>+0.5  | +0.0<br>+0.0<br>-27.7<br>+0.6 | +0.0<br>+0.0<br>+8.1<br>+0.0  | +0.0  | 33.2         | 43.5         | -10.3  | Vert  |
| 6 | 69.771k               | 39.0       | +0.0<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+9.6  | +0.0<br>+0.0<br>+0.0<br>+9.6  | -40.0 | 8.6          | 30.7         | -22.1  | Perp  |
| 7 | 29.940M               | 20.8       | +0.3<br>+0.0<br>+0.0<br>+0.0 | +0.1<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+5.6  | -20.0 | 6.8          | 29.5         | -22.7  | Perp  |
| 8 | 23100.000<br>M<br>Ave | 30.6       | +0.0<br>+1.7<br>+0.0<br>+0.0 | +0.0<br>+9.5<br>+0.0<br>+0.0  | +0.0<br>+0.8<br>+0.0<br>+0.0  | -15.5<br>+1.3<br>+0.0<br>+0.0 | +0.0  | 28.4         | 54.0         | -25.6  | Horiz |
| ^ | 23100.000<br>M        | 43.8       | +0.0<br>+1.7<br>+0.0<br>+0.0 | +0.0<br>+9.5<br>+0.0<br>+0.0  | +0.0<br>+0.8<br>+0.0<br>+0.0  | -15.5<br>+1.3<br>+0.0<br>+0.0 | +0.0  | 41.6         | 54.0         | -12.4  | Horiz |



|    |           |      |      |      |       |      |       |      |      |       |       |
|----|-----------|------|------|------|-------|------|-------|------|------|-------|-------|
| 10 | 26.448M   | 16.8 | +0.3 | +0.1 | +0.0  | +0.0 | -20.0 | 3.8  | 29.5 | -25.7 | Perp  |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0 |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0 |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +6.6 |       |      |      |       |       |
| 11 | 11568.700 | 25.8 | +6.6 | +1.6 | -13.2 | +0.0 | +0.0  | 20.8 | 54.0 | -33.2 | Horiz |
|    | M         |      | +0.0 | +0.0 | +0.0  | +0.0 |       |      |      |       |       |
|    | Ave       |      | +0.0 | +0.0 | +0.0  | +0.0 |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0 |       |      |      |       |       |
| ^  | 11568.700 | 40.1 | +6.6 | +1.6 | -13.2 | +0.0 | +0.0  | 35.1 | 54.0 | -18.9 | Horiz |
|    | M         |      | +0.0 | +0.0 | +0.0  | +0.0 |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0 |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0  | +0.0 |       |      |      |       |       |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.209 Radiated Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:48:47  
 Tested By: Matthew Harrison Sequence#: 25  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

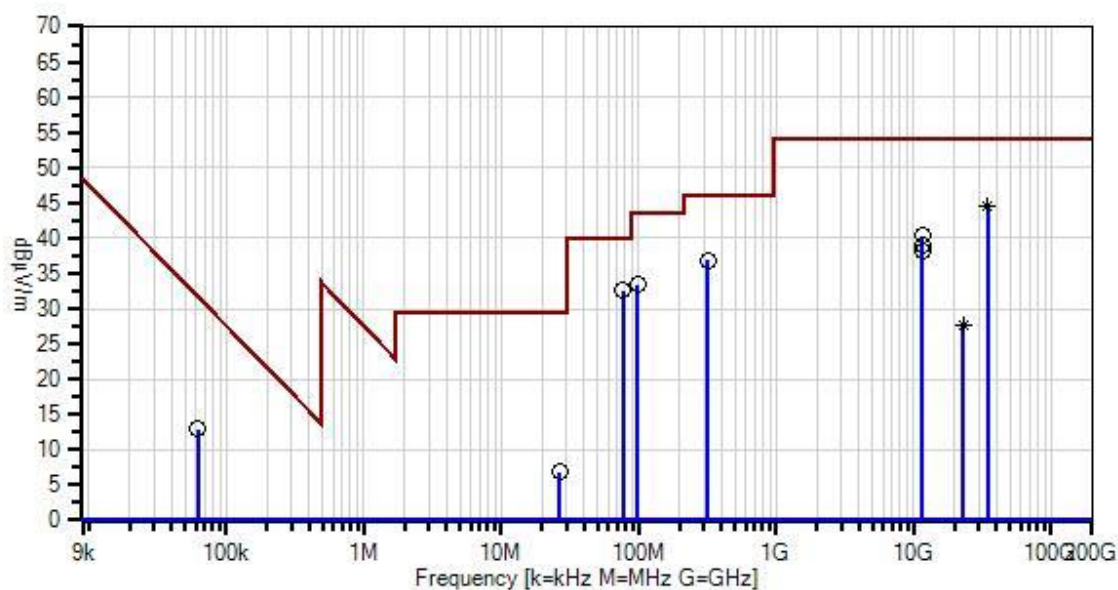
***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 9kHz-40GHz<br>Frequency tested: 5745, 5785, 5825 MHz<br><br>Firmware power setting: 14 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11n, 20MHz BW, MCS8 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. WO#: 102802 Sequence#: 25 Date: 4/2/2020  
15.209 Radiated Emissions Test Distance: 3 Meters Perp



— Sweep Data  
x QP Readings  
Software Version: 5.03.12

— Readings  
\* Average Readings  
— 1 - 15.209 Radiated Emissions

○ Peak Readings  
▼ Ambient

**Test Equipment:**

| ID  | Asset #    | Description                                | Model                           | Calibration Date | Cal Due Date |
|-----|------------|--------------------------------------------|---------------------------------|------------------|--------------|
|     | AN01467    | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                            | 7/5/2019         | 7/5/2021     |
| T1  | ANP06515   | Cable                                      | Heliac                          | 6/29/2018        | 6/29/2020    |
| T2  | ANP06540   | Cable                                      | Heliac                          | 8/23/2019        | 8/23/2021    |
|     | AN02872    | Spectrum Analyzer                          | E4440A                          | 11/18/2019       | 11/18/2021   |
|     | AN03540    | Preamplifier                               | 83017A                          | 5/13/2019        | 5/13/2021    |
|     | ANP07504   | Cable                                      | CLU40-<br>KMKM-02.00F           | 1/17/2019        | 1/17/2021    |
| T3  | AN02741    | Active Horn<br>Antenna                     | AMFW-5F-<br>12001800-20-<br>10P | 4/26/2019        | 4/26/2021    |
| T4  | AN02742    | Active Horn<br>Antenna                     | AMFW-5F-<br>18002650-20-<br>10P | 10/16/2018       | 10/16/2020   |
| T5  | AN02763-69 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
| T6  | ANP06678   | Cable                                      | 32026-29801-<br>29801-144       | 2/20/2020        | 2/20/2022    |
| T7  | ANP07211   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
| T8  | ANP07212   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
|     | AN02673    | Spectrum Analyzer                          | E4446A                          | 2/22/2019        | 2/22/2021    |
| T9  | AN02743    | Active Horn<br>Antenna                     | AMFW-5F-<br>260400-33-8P        | 4/26/2019        | 4/26/2021    |
| T10 | AN02764-70 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
| T11 | AN02307    | Preamplifier                               | 8447D                           | 1/10/2020        | 1/10/2022    |
| T12 | AN03628    | Biconilog Antenna                          | 3142E                           | 6/11/2019        | 6/11/2021    |
| T13 | ANP06123   | Attenuator                                 | 18N-6                           | 4/5/2019         | 4/5/2021     |
| T14 | ANP05305   | Cable                                      | ETSI-50T                        | 9/6/2019         | 9/6/2021     |
| T15 | ANP05360   | Cable                                      | RG214                           | 2/3/2020         | 2/3/2022     |
| T16 | AN00052    | Loop Antenna                               | 6502                            | 5/7/2018         | 5/7/2020     |

**Measurement Data:** Reading listed by margin. Test Distance: 3 Meters

| # | Freq                  | Rdng       | T1<br>T5<br>T9<br>T13        | T2<br>T6<br>T10<br>T14        | T3<br>T7<br>T11<br>T15        | T4<br>T8<br>T12<br>T16        | Dist  | Corr         | Spec         | Margin | Polar |
|---|-----------------------|------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------|--------------|--------------|--------|-------|
|   | MHz                   | dB $\mu$ V | dB                           | dB                            | dB                            | dB                            | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1 | 76.400M               | 46.7       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.1<br>+0.0<br>+0.0<br>+0.4  | +0.0<br>+0.0<br>-27.8<br>+0.5 | +0.0<br>+0.0<br>+6.9<br>+0.0  | +0.0  | 32.6         | 40.0         | -7.4   | Vert  |
| 2 | 316.700M              | 42.1       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.2<br>+0.0<br>+0.0<br>+0.9  | +0.0<br>+0.0<br>-27.1<br>+1.1 | +0.0<br>+0.0<br>+13.9<br>+0.0 | +0.0  | 36.9         | 46.0         | -9.1   | Horiz |
| 3 | 34470.000<br>M<br>Ave | 24.4       | +0.0<br>+0.0<br>+2.1<br>+0.0 | +0.0<br>+12.3<br>+3.1<br>+0.0 | +0.0<br>+1.2<br>+0.0<br>+0.0  | +0.0<br>+1.5<br>+0.0<br>+0.0  | +0.0  | 44.6         | 54.0         | -9.4   | Horiz |
| ^ | 34470.000<br>M        | 40.1       | +0.0<br>+0.0<br>+2.1<br>+0.0 | +0.0<br>+12.3<br>+3.1<br>+0.0 | +0.0<br>+1.2<br>+0.0<br>+0.0  | +0.0<br>+1.5<br>+0.0<br>+0.0  | +0.0  | 60.3         | 54.0         | +6.3   | Horiz |
| 5 | 98.500M               | 46.1       | +0.0<br>+0.0<br>+0.0<br>+5.8 | +0.1<br>+0.0<br>+0.0<br>+0.5  | +0.0<br>+0.0<br>-27.7<br>+0.6 | +0.0<br>+0.0<br>+8.0<br>+0.0  | +0.0  | 33.4         | 43.5         | -10.1  | Vert  |
| 6 | 11652.040<br>M        | 45.2       | +6.7<br>+0.0<br>+0.0<br>+0.0 | +1.7<br>+0.0<br>+0.0<br>+0.0  | -13.3<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0  | 40.3         | 54.0         | -13.7  | Horiz |
| 7 | 11572.340<br>M        | 44.1       | +6.6<br>+0.0<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0<br>+0.0  | -13.2<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0  | 39.1         | 54.0         | -14.9  | Horiz |
| 8 | 11491.830<br>M        | 43.2       | +6.6<br>+0.0<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0<br>+0.0  | -13.2<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0  | 38.2         | 54.0         | -15.8  | Horiz |
| 9 | 62.580k               | 43.2       | +0.0<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+9.7  | -40.0 | 12.9         | 31.7         | -18.8  | Perp  |

|    |           |      |      |      |      |       |       |      |      |       |       |
|----|-----------|------|------|------|------|-------|-------|------|------|-------|-------|
| 10 | 26.478M   | 19.8 | +0.3 | +0.1 | +0.0 | +0.0  | -20.0 | 6.8  | 29.5 | -22.7 | Perp  |
|    |           |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0 | +6.6  |       |      |      |       |       |
| 11 | 22980.000 | 30.1 | +0.0 | +0.0 | +0.0 | -15.8 | +0.0  | 27.6 | 54.0 | -26.4 | Horiz |
|    | M         |      | +1.7 | +9.5 | +0.8 | +1.3  |       |      |      |       |       |
|    | Ave       |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
| ^  | 22980.000 | 44.7 | +0.0 | +0.0 | +0.0 | -15.8 | +0.0  | 42.2 | 54.0 | -11.8 | Horiz |
|    | M         |      | +1.7 | +9.5 | +0.8 | +1.3  |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |
|    |           |      | +0.0 | +0.0 | +0.0 | +0.0  |       |      |      |       |       |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.209 Radiated Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:51:58  
 Tested By: Matthew Harrison Sequence#: 26  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

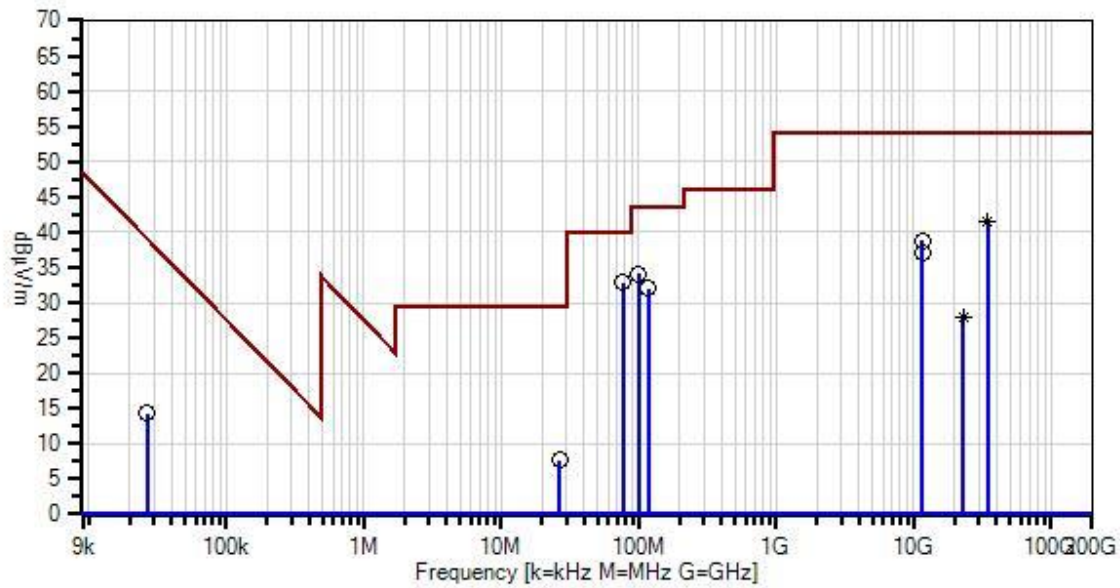
***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 9kHz-40GHz<br>Frequency tested: 5755, 5795 MHz<br><br>Firmware power setting: 14 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11n, 40MHz BW, MCS8 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. WO#: 102802 Sequence#: 26 Date: 4/2/2020  
15.209 Radiated Emissions Test Distance: 3 Meters Perp



— Sweep Data  
x QP Readings  
Software Version: 5.03.12

— Readings  
\* Average Readings  
— 1 - 15.209 Radiated Emissions

○ Peak Readings  
▼ Ambient



**Test Equipment:**

| ID  | Asset #    | Description                                | Model                           | Calibration Date | Cal Due Date |
|-----|------------|--------------------------------------------|---------------------------------|------------------|--------------|
|     | AN01467    | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                            | 7/5/2019         | 7/5/2021     |
| T1  | ANP06515   | Cable                                      | Heliac                          | 6/29/2018        | 6/29/2020    |
| T2  | ANP06540   | Cable                                      | Heliac                          | 8/23/2019        | 8/23/2021    |
|     | AN02872    | Spectrum Analyzer                          | E4440A                          | 11/18/2019       | 11/18/2021   |
|     | AN03540    | Preamplifier                               | 83017A                          | 5/13/2019        | 5/13/2021    |
|     | ANP07504   | Cable                                      | CLU40-<br>KMKM-02.00F           | 1/17/2019        | 1/17/2021    |
| T3  | AN02741    | Active Horn<br>Antenna                     | AMFW-5F-<br>12001800-20-<br>10P | 4/26/2019        | 4/26/2021    |
| T4  | AN02742    | Active Horn<br>Antenna                     | AMFW-5F-<br>18002650-20-<br>10P | 10/16/2018       | 10/16/2020   |
| T5  | AN02763-69 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
| T6  | ANP06678   | Cable                                      | 32026-29801-<br>29801-144       | 2/20/2020        | 2/20/2022    |
| T7  | ANP07211   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
| T8  | ANP07212   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
|     | AN02673    | Spectrum Analyzer                          | E4446A                          | 2/22/2019        | 2/22/2021    |
| T9  | AN02743    | Active Horn<br>Antenna                     | AMFW-5F-<br>260400-33-8P        | 4/26/2019        | 4/26/2021    |
|     | AN02764-70 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
| T10 | AN02307    | Preamplifier                               | 8447D                           | 1/10/2020        | 1/10/2022    |
| T11 | AN03628    | Biconilog Antenna                          | 3142E                           | 6/11/2019        | 6/11/2021    |
| T12 | ANP06123   | Attenuator                                 | 18N-6                           | 4/5/2019         | 4/5/2021     |
| T13 | ANP05305   | Cable                                      | ETSI-50T                        | 9/6/2019         | 9/6/2021     |
| T14 | ANP05360   | Cable                                      | RG214                           | 2/3/2020         | 2/3/2022     |
| T15 | AN00052    | Loop Antenna                               | 6502                            | 5/7/2018         | 5/7/2020     |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| #  | Freq                  | Rdng       | T1<br>T5<br>T9<br>T13        | T2<br>T6<br>T10<br>T14        | T3<br>T7<br>T11<br>T15        | T4<br>T8<br>T12       | Dist  | Corr         | Spec         | Margin | Polar |
|----|-----------------------|------------|------------------------------|-------------------------------|-------------------------------|-----------------------|-------|--------------|--------------|--------|-------|
|    | MHz                   | dB $\mu$ V | dB                           | dB                            | dB                            | dB                    | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1  | 76.400M               | 46.9       | +0.0<br>+0.0<br>+0.0<br>+0.4 | +0.1<br>+0.0<br>-27.8<br>+0.5 | +0.0<br>+0.0<br>+6.9<br>+0.0  | +0.0<br>+0.0<br>+5.8  | +0.0  | 32.8         | 40.0         | -7.2   | Horiz |
| 2  | 100.500M              | 46.7       | +0.0<br>+0.0<br>+0.0<br>+0.5 | +0.1<br>+0.0<br>-27.7<br>+0.6 | +0.0<br>+0.0<br>+8.1<br>+0.0  | +0.0<br>+0.0<br>+5.8  | +0.0  | 34.1         | 43.5         | -9.4   | Horiz |
| 3  | 117.900M              | 44.6       | +0.0<br>+0.0<br>+0.0<br>+0.5 | +0.1<br>+0.0<br>-27.6<br>+0.6 | +0.0<br>+0.0<br>+8.0<br>+0.0  | +0.0<br>+0.0<br>+5.8  | +0.0  | 32.0         | 43.5         | -11.5  | Horiz |
| 4  | 34530.000<br>M<br>Ave | 24.5       | +0.0<br>+0.0<br>+2.1<br>+0.0 | +0.0<br>+12.3<br>+0.0<br>+0.0 | +0.0<br>+1.2<br>+0.0<br>+0.0  | +0.0<br>+1.5<br>+0.0  | +0.0  | 41.6         | 54.0         | -12.4  | Horiz |
| ^  | 34530.000<br>M        | 40.3       | +0.0<br>+0.0<br>+2.1<br>+0.0 | +0.0<br>+12.3<br>+0.0<br>+0.0 | +0.0<br>+1.2<br>+0.0<br>+0.0  | +0.0<br>+1.5<br>+0.0  | +0.0  | 57.4         | 54.0         | +3.4   | Horiz |
| 6  | 11590.100<br>M        | 43.8       | +6.6<br>+0.0<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0<br>+0.0  | -13.2<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0  | +0.0  | 38.8         | 54.0         | -15.2  | Horiz |
| 7  | 11497.400<br>M        | 42.0       | +6.6<br>+0.0<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0<br>+0.0  | -13.2<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0  | +0.0  | 37.0         | 54.0         | -17.0  | Horiz |
| 8  | 26.657M               | 20.7       | +0.3<br>+0.0<br>+0.0<br>+0.0 | +0.1<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+6.5  | +0.0<br>+0.0<br>+0.0  | -20.0 | 7.6          | 29.5         | -21.9  | Perp  |
| 9  | 26.625k               | 43.0       | +0.0<br>+0.0<br>+0.0<br>+0.0 | +0.0<br>+0.0<br>+0.0<br>+0.0  | +0.0<br>+0.0<br>+0.0<br>+11.3 | +0.0<br>+0.0<br>+0.0  | -40.0 | 14.3         | 39.1         | -24.8  | Perp  |
| 10 | 23020.000<br>M<br>Ave | 30.3       | +0.0<br>+1.7<br>+0.0<br>+0.0 | +0.0<br>+9.5<br>+0.0<br>+0.0  | +0.0<br>+0.8<br>+0.0<br>+0.0  | -15.7<br>+1.3<br>+0.0 | +0.0  | 27.9         | 54.0         | -26.1  | Horiz |
| ^  | 23020.000<br>M        | 45.3       | +0.0<br>+1.7<br>+0.0<br>+0.0 | +0.0<br>+9.5<br>+0.0<br>+0.0  | +0.0<br>+0.8<br>+0.0<br>+0.0  | -15.7<br>+1.3<br>+0.0 | +0.0  | 42.9         | 54.0         | -11.1  | Horiz |

## 15.407 Data

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:45:25  
 Tested By: Matthew Harrison Sequence#: 24  
 Software: EMITest 5.03.12

### Equipment Tested:

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

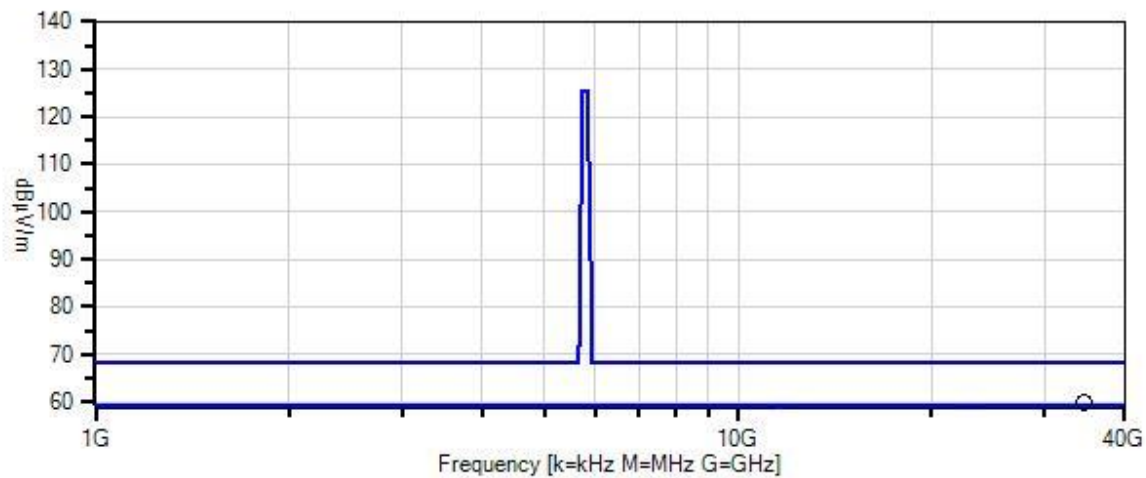
### Support Equipment:

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

### Test Conditions / Notes:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Environmental Conditions:<br/>         Temperature: 22°C<br/>         Humidity: 45%<br/>         Pressure: 101.3 kPa</p> <p>Frequency Range: 1-40GHz<br/>         Frequency tested: 5745, 5785, 5825 MHz<br/> <math>E[dB\mu V/m] = EIRP[dBm] + 95.2</math>, for <math>d = 3</math> m</p> <p>Firmware power setting: 14 dBm<br/>         EUT Firmware:<br/>         Protocol /MCS/Modulation: 802.11a, 20MHz BW, 6Mbps (worst-case)</p> <p>Antenna type: Linear Polarized<br/>         Antenna Gain: 5.9 dBi.</p> <p>Duty Cycle: 100% Modulated</p> <p>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br/>         Test Mode: Transmitting<br/>         Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br/>         Modifications Added: None<br/>         Setup: EUT is connected to a Laptop via USB and Audio cable.</p> <p>All data rates investigated, worst-case provided</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. W/O#: 102802 Sequence#: 24 Date: 4/2/2020  
 15.407(b)(4) Radiated Spurious Emissions - Client Devices Test Distance: 3 Meters Perp



— Sweep Data  
 — Readings  
 ○ Peak Readings  
 × QP Readings  
 \* Average Readings  
 ▼ Ambient  
 Software Version: 5.03.12  
 — 1 - 15.407(b)(4) Radiated Spurious Emissions - Client Devices

**Test Equipment:**

| <b>ID</b> | <b>Asset #</b> | <b>Description</b>                         | <b>Model</b>                    | <b>Calibration Date</b> | <b>Cal Due Date</b> |
|-----------|----------------|--------------------------------------------|---------------------------------|-------------------------|---------------------|
|           | AN01467        | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                            | 7/5/2019                | 7/5/2021            |
| T1        | ANP06515       | Cable                                      | Heliac                          | 6/29/2018               | 6/29/2020           |
| T2        | ANP06540       | Cable                                      | Heliac                          | 8/23/2019               | 8/23/2021           |
|           | AN02872        | Spectrum Analyzer                          | E4440A                          | 11/18/2019              | 11/18/2021          |
|           | AN03540        | Preamp                                     | 83017A                          | 5/13/2019               | 5/13/2021           |
|           | ANP07504       | Cable                                      | CLU40-<br>KMKM-02.00F           | 1/17/2019               | 1/17/2021           |
| T3        | AN02741        | Active Horn<br>Antenna                     | AMFW-5F-<br>12001800-20-<br>10P | 4/26/2019               | 4/26/2021           |
| T4        | AN02742        | Active Horn<br>Antenna                     | AMFW-5F-<br>18002650-20-<br>10P | 10/16/2018              | 10/16/2020          |
| T5        | AN02763-69     | Waveguide                                  | Multiple                        | 4/23/2018               | 4/23/2020           |
| T6        | ANP06678       | Cable                                      | 32026-29801-<br>29801-144       | 2/20/2020               | 2/20/2022           |
| T7        | ANP07211       | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019                | 8/7/2021            |
| T8        | ANP07212       | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019                | 8/7/2021            |
|           | AN02673        | Spectrum Analyzer                          | E4446A                          | 2/22/2019               | 2/22/2021           |
| T9        | AN02743        | Active Horn<br>Antenna                     | AMFW-5F-<br>260400-33-8P        | 4/26/2019               | 4/26/2021           |
| T10       | AN02764-70     | Waveguide                                  | Multiple                        | 4/23/2018               | 4/23/2020           |
|           | AN02307        | Preamp                                     | 8447D                           | 1/10/2020               | 1/10/2022           |
|           | AN03628        | Biconilog Antenna                          | 3142E                           | 6/11/2019               | 6/11/2021           |
|           | ANP06123       | Attenuator                                 | 18N-6                           | 4/5/2019                | 4/5/2021            |
|           | ANP05305       | Cable                                      | ETSI-50T                        | 9/6/2019                | 9/6/2021            |
|           | ANP05360       | Cable                                      | RG214                           | 2/3/2020                | 2/3/2022            |
|           | AN00052        | Loop Antenna                               | 6502                            | 5/7/2018                | 5/7/2020            |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq           | Rdng       | T1<br>T5<br>T9       | T2<br>T6<br>T10       | T3<br>T7      | T4<br>T8      | Dist  | Corr         | Spec         | Margin | Polar |
|---|----------------|------------|----------------------|-----------------------|---------------|---------------|-------|--------------|--------------|--------|-------|
|   | MHz            | dB $\mu$ V | dB                   | dB                    | dB            | dB            | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1 | 34470.000<br>M | 39.6       | +0.0<br>+0.0<br>+2.1 | +0.0<br>+12.3<br>+3.1 | +0.0<br>+1.2  | +0.0<br>+1.5  | +0.0  | 59.8         | 68.2         | -8.4   | Horiz |
| 2 | 22980.000<br>M | 46.5       | +0.0<br>+1.7<br>+0.0 | +0.0<br>+9.5<br>+0.0  | +0.0<br>+0.8  | -15.8<br>+1.3 | +0.0  | 44.0         | 68.2         | -24.2  | Horiz |
| 3 | 11645.650<br>M | 46.6       | +6.7<br>+0.0<br>+0.0 | +1.7<br>+0.0<br>+0.0  | -13.3<br>+0.0 | +0.0<br>+0.0  | +0.0  | 41.7         | 68.2         | -26.5  | Horiz |
| 4 | 11570.240<br>M | 46.7       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 41.7         | 68.2         | -26.5  | Horiz |
| 5 | 11490.240<br>M | 45.2       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 40.2         | 68.2         | -28.0  | Horiz |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:40:13  
 Tested By: Matthew Harrison Sequence#: 23  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

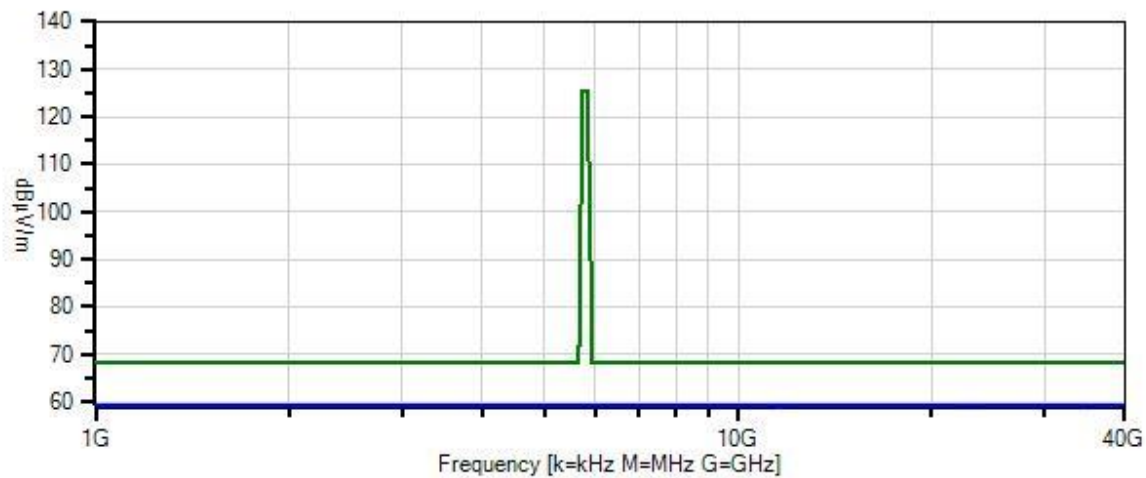
***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 1-40GHz<br>Frequency tested: 5745, 5785, 5825 MHz<br>$E[dB\mu V/m] = EIRP[dBm] + 95.2$ , for $d = 3$ m<br><br>Firmware power setting: 14 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11ac, 20MHz BW, MCS0 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. W/O#: 102802 Sequence#: 23 Date: 4/2/2020  
 15.407(b)(4) Radiated Spurious Emissions - Client Devices Test Distance: 3 Meters Perp



— Sweep Data  
 — Readings  
 ○ Peak Readings  
 × QP Readings  
 \* Average Readings  
 ▼ Ambient  
 Software Version: 5.03.12  
 — 1 - 15.407(b)(4) Radiated Spurious Emissions - Client Devices



**Test Equipment:**

| ID  | Asset #    | Description                                | Model                           | Calibration Date | Cal Due Date |
|-----|------------|--------------------------------------------|---------------------------------|------------------|--------------|
|     | AN01467    | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                            | 7/5/2019         | 7/5/2021     |
| T1  | ANP06515   | Cable                                      | Heliac                          | 6/29/2018        | 6/29/2020    |
| T2  | ANP06540   | Cable                                      | Heliac                          | 8/23/2019        | 8/23/2021    |
|     | AN02872    | Spectrum Analyzer                          | E4440A                          | 11/18/2019       | 11/18/2021   |
|     | AN03540    | Preamplifier                               | 83017A                          | 5/13/2019        | 5/13/2021    |
|     | ANP07504   | Cable                                      | CLU40-<br>KMKM-02.00F           | 1/17/2019        | 1/17/2021    |
| T3  | AN02741    | Active Horn<br>Antenna                     | AMFW-5F-<br>12001800-20-<br>10P | 4/26/2019        | 4/26/2021    |
| T4  | AN02742    | Active Horn<br>Antenna                     | AMFW-5F-<br>18002650-20-<br>10P | 10/16/2018       | 10/16/2020   |
| T5  | AN02763-69 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
| T6  | ANP06678   | Cable                                      | 32026-29801-<br>29801-144       | 2/20/2020        | 2/20/2022    |
| T7  | ANP07211   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
| T8  | ANP07212   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
|     | AN02673    | Spectrum Analyzer                          | E4446A                          | 2/22/2019        | 2/22/2021    |
| T9  | AN02743    | Active Horn<br>Antenna                     | AMFW-5F-<br>260400-33-8P        | 4/26/2019        | 4/26/2021    |
| T10 | AN02764-70 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
|     | AN02307    | Preamplifier                               | 8447D                           | 1/10/2020        | 1/10/2022    |
|     | AN03628    | Biconilog Antenna                          | 3142E                           | 6/11/2019        | 6/11/2021    |
|     | ANP06123   | Attenuator                                 | 18N-6                           | 4/5/2019         | 4/5/2021     |
|     | ANP05305   | Cable                                      | ETSI-50T                        | 9/6/2019         | 9/6/2021     |
|     | ANP05360   | Cable                                      | RG214                           | 2/3/2020         | 2/3/2022     |
|     | AN00052    | Loop Antenna                               | 6502                            | 5/7/2018         | 5/7/2020     |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq           | Rdng       | T1<br>T5<br>T9       | T2<br>T6<br>T10       | T3<br>T7      | T4<br>T8      | Dist  | Corr         | Spec         | Margin | Polar |
|---|----------------|------------|----------------------|-----------------------|---------------|---------------|-------|--------------|--------------|--------|-------|
|   | MHz            | dB $\mu$ V | dB                   | dB                    | dB            | dB            | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1 | 34470.000<br>M | 38.2       | +0.0<br>+0.0<br>+2.1 | +0.0<br>+12.3<br>+3.1 | +0.0<br>+1.2  | +0.0<br>+1.5  | +0.0  | 58.4         | 68.2         | -9.8   | Horiz |
| 2 | 22980.000<br>M | 43.6       | +0.0<br>+1.7<br>+0.0 | +0.0<br>+9.5<br>+0.0  | +0.0<br>+0.8  | -15.8<br>+1.3 | +0.0  | 41.1         | 68.2         | -27.1  | Horiz |
| 3 | 11649.280<br>M | 45.9       | +6.7<br>+0.0<br>+0.0 | +1.7<br>+0.0<br>+0.0  | -13.3<br>+0.0 | +0.0<br>+0.0  | +0.0  | 41.0         | 68.2         | -27.2  | Horiz |
| 4 | 11570.870<br>M | 45.1       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 40.1         | 68.2         | -28.1  | Horiz |
| 5 | 11492.790<br>M | 43.9       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 38.9         | 68.2         | -29.3  | Horiz |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:37:10  
 Tested By: Matthew Harrison Sequence#: 22  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

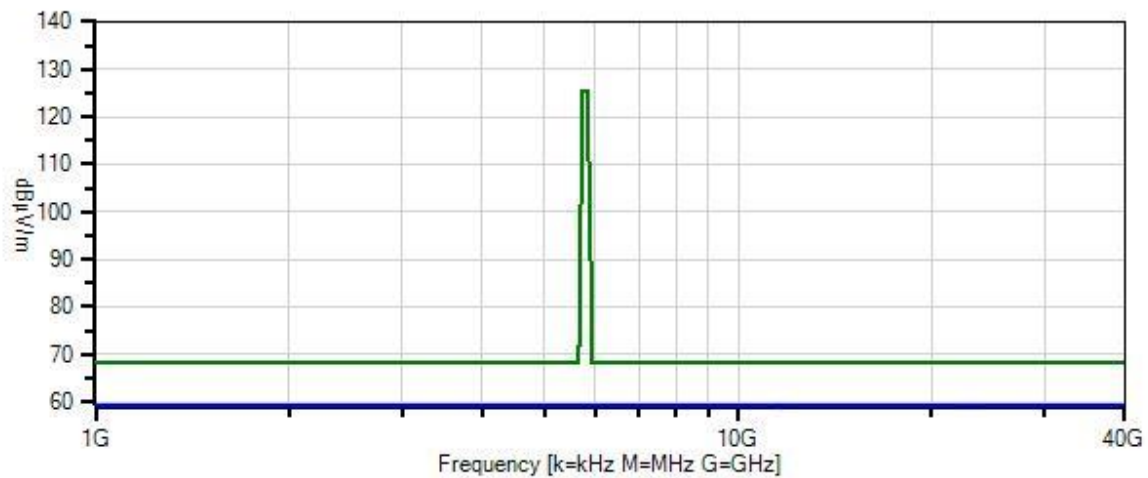
***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 1-40GHz<br>Frequency tested: 5755, 5795 MHz<br>$E[dB\mu V/m] = EIRP[dBm] + 95.2$ , for $d = 3$ m<br><br>Firmware power setting: 13 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11ac, 40MHz BW, MCS0 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. W/O#: 102802 Sequence#: 22 Date: 4/2/2020  
15.407(b)(4) Radiated Spurious Emissions - Client Devices Test Distance: 3 Meters Horiz



— Sweep Data  
— Readings  
○ Peak Readings  
× QP Readings  
\* Average Readings  
▼ Ambient  
Software Version: 5.03.12  
— 1 - 15.407(b)(4) Radiated Spurious Emissions - Client Devices

**Test Equipment:**

| ID  | Asset #    | Description                                | Model                           | Calibration Date | Cal Due Date |
|-----|------------|--------------------------------------------|---------------------------------|------------------|--------------|
|     | AN01467    | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                            | 7/5/2019         | 7/5/2021     |
| T1  | ANP06515   | Cable                                      | Heliac                          | 6/29/2018        | 6/29/2020    |
| T2  | ANP06540   | Cable                                      | Heliac                          | 8/23/2019        | 8/23/2021    |
|     | AN02872    | Spectrum Analyzer                          | E4440A                          | 11/18/2019       | 11/18/2021   |
|     | AN03540    | Preamplifier                               | 83017A                          | 5/13/2019        | 5/13/2021    |
|     | ANP07504   | Cable                                      | CLU40-<br>KMKM-02.00F           | 1/17/2019        | 1/17/2021    |
| T3  | AN02741    | Active Horn<br>Antenna                     | AMFW-5F-<br>12001800-20-<br>10P | 4/26/2019        | 4/26/2021    |
| T4  | AN02742    | Active Horn<br>Antenna                     | AMFW-5F-<br>18002650-20-<br>10P | 10/16/2018       | 10/16/2020   |
| T5  | AN02763-69 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
| T6  | ANP06678   | Cable                                      | 32026-29801-<br>29801-144       | 2/20/2020        | 2/20/2022    |
| T7  | ANP07211   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
| T8  | ANP07212   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
|     | AN02673    | Spectrum Analyzer                          | E4446A                          | 2/22/2019        | 2/22/2021    |
| T9  | AN02743    | Active Horn<br>Antenna                     | AMFW-5F-<br>260400-33-8P        | 4/26/2019        | 4/26/2021    |
| T10 | AN02764-70 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
|     | AN02307    | Preamplifier                               | 8447D                           | 1/10/2020        | 1/10/2022    |
|     | AN03628    | Biconilog Antenna                          | 3142E                           | 6/11/2019        | 6/11/2021    |
|     | ANP06123   | Attenuator                                 | 18N-6                           | 4/5/2019         | 4/5/2021     |
|     | ANP05305   | Cable                                      | ETSI-50T                        | 9/6/2019         | 9/6/2021     |
|     | ANP05360   | Cable                                      | RG214                           | 2/3/2020         | 2/3/2022     |
|     | AN00052    | Loop Antenna                               | 6502                            | 5/7/2018         | 5/7/2020     |

**Measurement Data:** Reading listed by margin. Test Distance: 3 Meters

| # | Freq           | Rdng       | T1<br>T5<br>T9       | T2<br>T6<br>T10       | T3<br>T7      | T4<br>T8      | Dist  | Corr         | Spec         | Margin | Polar |
|---|----------------|------------|----------------------|-----------------------|---------------|---------------|-------|--------------|--------------|--------|-------|
|   | MHz            | dB $\mu$ V | dB                   | dB                    | dB            | dB            | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1 | 34530.000<br>M | 38.6       | +0.0<br>+0.0<br>+2.1 | +0.0<br>+12.3<br>+3.1 | +0.0<br>+1.2  | +0.0<br>+1.5  | +0.0  | 58.8         | 68.2         | -9.4   | Horiz |
| 2 | 23020.000<br>M | 45.5       | +0.0<br>+1.7<br>+0.0 | +0.0<br>+9.5<br>+0.0  | +0.0<br>+0.8  | -15.7<br>+1.3 | +0.0  | 43.1         | 68.2         | -25.1  | Horiz |
| 3 | 11590.000<br>M | 42.1       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 37.1         | 68.2         | -31.1  | Horiz |
| 4 | 11529.700<br>M | 40.8       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 35.8         | 68.2         | -32.4  | Horiz |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:34:09  
 Tested By: Matthew Harrison Sequence#: 21  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

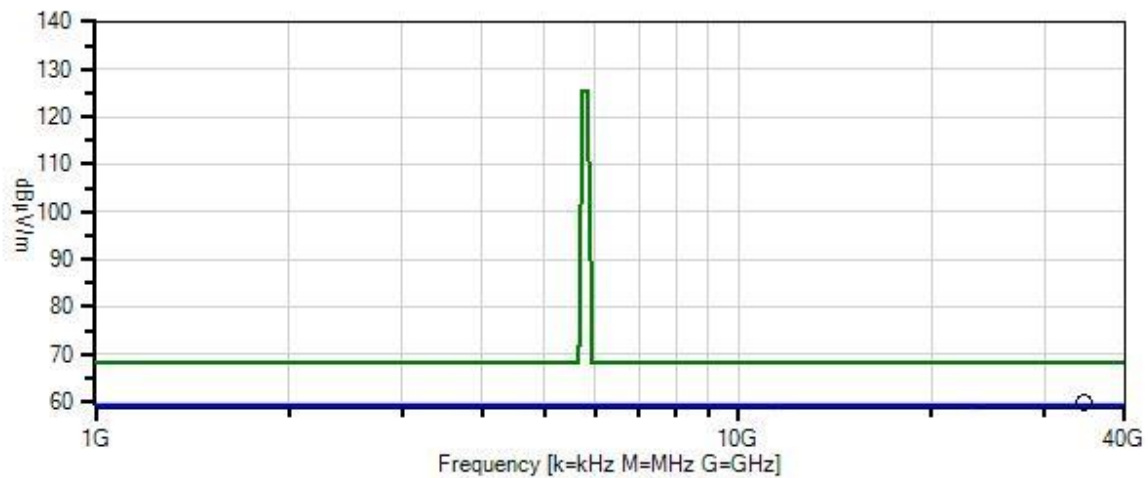
***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 1-40GHz<br>Frequency tested: 5775 MHz<br>$E[dB\mu V/m] = EIRP[dBm] + 95.2$ , for $d = 3$ m<br><br>Firmware power setting: 13 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11ac, 80MHz BW, MCS0 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. W/O#: 102802 Sequence#: 21 Date: 4/2/2020  
 15.407(b)(4) Radiated Spurious Emissions - Client Devices Test Distance: 3 Meters Perp



— Sweep Data  
 — Readings  
 ○ Peak Readings  
 × QP Readings  
 \* Average Readings  
 ▼ Ambient  
 Software Version: 5.03.12  
 — 1 - 15.407(b)(4) Radiated Spurious Emissions - Client Devices



**Test Equipment:**

| ID  | Asset #    | Description                         | Model                   | Calibration Date | Cal Due Date |
|-----|------------|-------------------------------------|-------------------------|------------------|--------------|
|     | AN01467    | Horn Antenna-ANSI C63.5 Calibration | 3115                    | 7/5/2019         | 7/5/2021     |
| T1  | ANP06515   | Cable                               | Heliac                  | 6/29/2018        | 6/29/2020    |
| T2  | ANP06540   | Cable                               | Heliac                  | 8/23/2019        | 8/23/2021    |
|     | AN02872    | Spectrum Analyzer                   | E4440A                  | 11/18/2019       | 11/18/2021   |
|     | AN03540    | Preamplifier                        | 83017A                  | 5/13/2019        | 5/13/2021    |
|     | ANP07504   | Cable                               | CLU40-KMKM-02.00F       | 1/17/2019        | 1/17/2021    |
| T3  | AN02741    | Active Horn Antenna                 | AMFW-5F-12001800-20-10P | 4/26/2019        | 4/26/2021    |
| T4  | AN02742    | Active Horn Antenna                 | AMFW-5F-18002650-20-10P | 10/16/2018       | 10/16/2020   |
| T5  | AN02763-69 | Waveguide                           | Multiple                | 4/23/2018        | 4/23/2020    |
| T6  | ANP06678   | Cable                               | 32026-29801-29801-144   | 2/20/2020        | 2/20/2022    |
| T7  | ANP07211   | Cable                               | 32026-29801-29801-18    | 8/7/2019         | 8/7/2021     |
| T8  | ANP07212   | Cable                               | 32026-29801-29801-18    | 8/7/2019         | 8/7/2021     |
|     | AN02673    | Spectrum Analyzer                   | E4446A                  | 2/22/2019        | 2/22/2021    |
| T9  | AN02743    | Active Horn Antenna                 | AMFW-5F-260400-33-8P    | 4/26/2019        | 4/26/2021    |
| T10 | AN02764-70 | Waveguide                           | Multiple                | 4/23/2018        | 4/23/2020    |
|     | AN02307    | Preamplifier                        | 8447D                   | 1/10/2020        | 1/10/2022    |
|     | AN03628    | Biconilog Antenna                   | 3142E                   | 6/11/2019        | 6/11/2021    |
|     | ANP06123   | Attenuator                          | 18N-6                   | 4/5/2019         | 4/5/2021     |
|     | ANP05305   | Cable                               | ETSI-50T                | 9/6/2019         | 9/6/2021     |
|     | ANP05360   | Cable                               | RG214                   | 2/3/2020         | 2/3/2022     |
|     | AN00052    | Loop Antenna                        | 6502                    | 5/7/2018         | 5/7/2020     |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq           | Rdng | T1<br>T5<br>T9       | T2<br>T6<br>T10       | T3<br>T7      | T4<br>T8      | Dist  | Corr   | Spec   | Margin | Polar |
|---|----------------|------|----------------------|-----------------------|---------------|---------------|-------|--------|--------|--------|-------|
|   | MHz            | dBμV | dB                   | dB                    | dB            | dB            | Table | dBμV/m | dBμV/m | dB     | Ant   |
| 1 | 34650.000<br>M | 39.2 | +0.0<br>+0.0<br>+2.3 | +0.0<br>+12.4<br>+3.1 | +0.0<br>+1.2  | +0.0<br>+1.5  | +0.0  | 59.7   | 68.2   | -8.5   | Horiz |
| 2 | 23100.000<br>M | 43.8 | +0.0<br>+1.7<br>+0.0 | +0.0<br>+9.5<br>+0.0  | +0.0<br>+0.8  | -15.5<br>+1.3 | +0.0  | 41.6   | 68.2   | -26.6  | Horiz |
| 3 | 11568.700<br>M | 40.1 | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 35.1   | 68.2   | -33.1  | Horiz |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:48:47  
 Tested By: Matthew Harrison Sequence#: 25  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

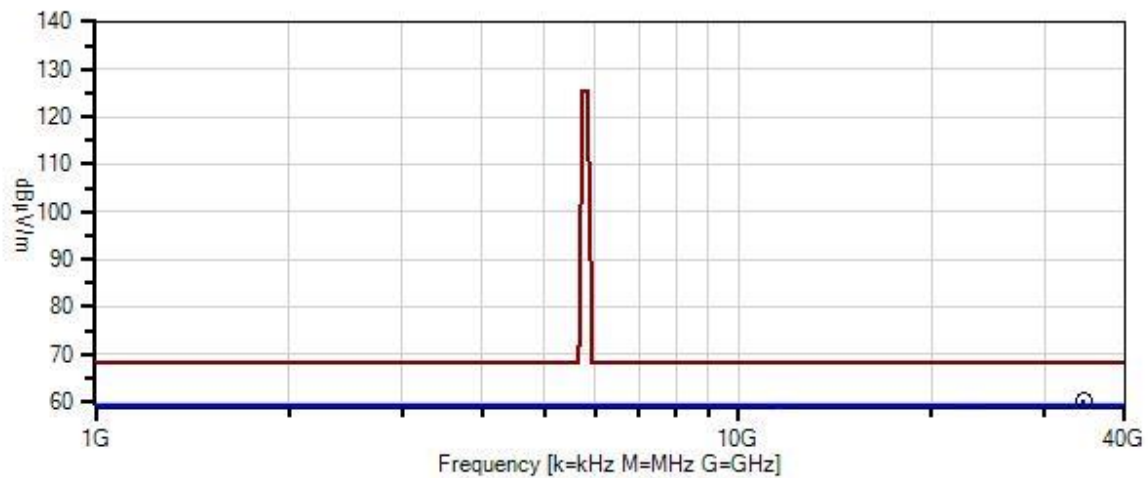
***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 1-40GHz<br>Frequency tested: 5745, 5785, 5825 MHz<br>$E[dB\mu V/m] = EIRP[dBm] + 95.2$ , for $d = 3$ m<br><br>Firmware power setting: 14 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11n, 20MHz BW, MCS8 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. W/O#: 102802 Sequence#: 25 Date: 4/2/2020  
 15.407(b)(4) Radiated Spurious Emissions - Client Devices Test Distance: 3 Meters Perp



— Sweep Data  
 — Readings  
 ○ Peak Readings  
 × QP Readings  
 \* Average Readings  
 ▼ Ambient  
 Software Version: 5.03.12  
 — 1 - 15.407(b)(4) Radiated Spurious Emissions - Client Devices

**Test Equipment:**

| ID  | Asset #    | Description                                | Model                           | Calibration Date | Cal Due Date |
|-----|------------|--------------------------------------------|---------------------------------|------------------|--------------|
|     | AN01467    | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                            | 7/5/2019         | 7/5/2021     |
| T1  | ANP06515   | Cable                                      | Heliac                          | 6/29/2018        | 6/29/2020    |
| T2  | ANP06540   | Cable                                      | Heliac                          | 8/23/2019        | 8/23/2021    |
|     | AN02872    | Spectrum Analyzer                          | E4440A                          | 11/18/2019       | 11/18/2021   |
|     | AN03540    | Preamplifier                               | 83017A                          | 5/13/2019        | 5/13/2021    |
|     | ANP07504   | Cable                                      | CLU40-<br>KMKM-02.00F           | 1/17/2019        | 1/17/2021    |
| T3  | AN02741    | Active Horn<br>Antenna                     | AMFW-5F-<br>12001800-20-<br>10P | 4/26/2019        | 4/26/2021    |
| T4  | AN02742    | Active Horn<br>Antenna                     | AMFW-5F-<br>18002650-20-<br>10P | 10/16/2018       | 10/16/2020   |
| T5  | AN02763-69 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
| T6  | ANP06678   | Cable                                      | 32026-29801-<br>29801-144       | 2/20/2020        | 2/20/2022    |
| T7  | ANP07211   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
| T8  | ANP07212   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
|     | AN02673    | Spectrum Analyzer                          | E4446A                          | 2/22/2019        | 2/22/2021    |
| T9  | AN02743    | Active Horn<br>Antenna                     | AMFW-5F-<br>260400-33-8P        | 4/26/2019        | 4/26/2021    |
| T10 | AN02764-70 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
|     | AN02307    | Preamplifier                               | 8447D                           | 1/10/2020        | 1/10/2022    |
|     | AN03628    | Biconilog Antenna                          | 3142E                           | 6/11/2019        | 6/11/2021    |
|     | ANP06123   | Attenuator                                 | 18N-6                           | 4/5/2019         | 4/5/2021     |
|     | ANP05305   | Cable                                      | ETSI-50T                        | 9/6/2019         | 9/6/2021     |
|     | ANP05360   | Cable                                      | RG214                           | 2/3/2020         | 2/3/2022     |
|     | AN00052    | Loop Antenna                               | 6502                            | 5/7/2018         | 5/7/2020     |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq           | Rdng       | T1<br>T5<br>T9       | T2<br>T6<br>T10       | T3<br>T7      | T4<br>T8      | Dist  | Corr         | Spec         | Margin | Polar |
|---|----------------|------------|----------------------|-----------------------|---------------|---------------|-------|--------------|--------------|--------|-------|
|   | MHz            | dB $\mu$ V | dB                   | dB                    | dB            | dB            | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1 | 34470.000<br>M | 40.1       | +0.0<br>+0.0<br>+2.1 | +0.0<br>+12.3<br>+3.1 | +0.0<br>+1.2  | +0.0<br>+1.5  | +0.0  | 60.3         | 68.2         | -7.9   | Horiz |
| 2 | 22980.000<br>M | 44.7       | +0.0<br>+1.7<br>+0.0 | +0.0<br>+9.5<br>+0.0  | +0.0<br>+0.8  | -15.8<br>+1.3 | +0.0  | 42.2         | 68.2         | -26.0  | Horiz |
| 3 | 11652.040<br>M | 45.2       | +6.7<br>+0.0<br>+0.0 | +1.7<br>+0.0<br>+0.0  | -13.3<br>+0.0 | +0.0<br>+0.0  | +0.0  | 40.3         | 68.2         | -27.9  | Horiz |
| 4 | 11572.340<br>M | 44.1       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 39.1         | 68.2         | -29.1  | Horiz |
| 5 | 11491.830<br>M | 43.2       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 38.2         | 68.2         | -30.0  | Horiz |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 4/2/2020  
 Test Type: **Maximized Emissions** Time: 15:51:58  
 Tested By: Matthew Harrison Sequence#: 26  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

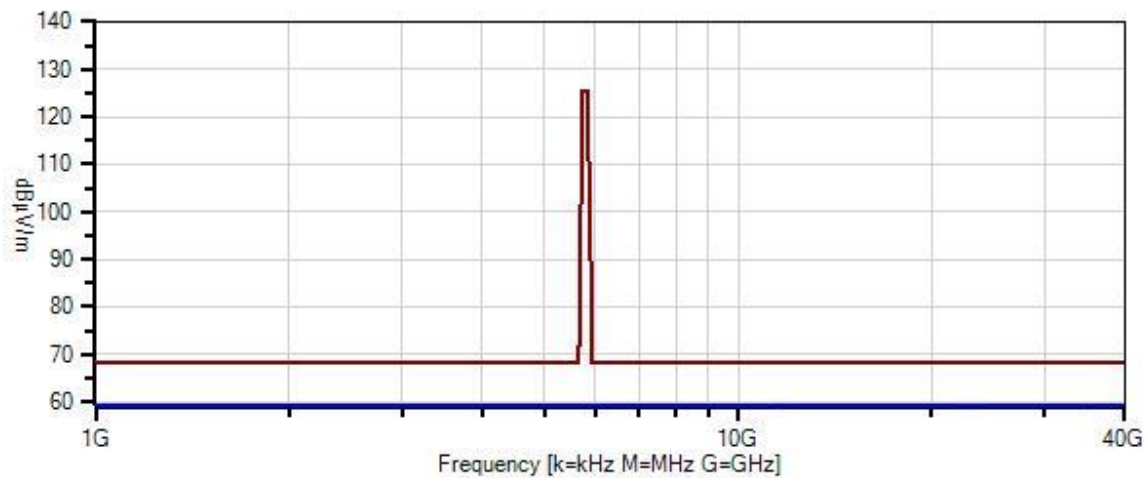
***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22°C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 1-40GHz<br>Frequency tested: 5755, 5795 MHz<br>$E[dB\mu V/m] = EIRP[dBm] + 95.2$ , for $d = 3$ m<br><br>Firmware power setting: 14 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11n, 40MHz BW, MCS8 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Modifications Added: None<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Nalloy, LLC. W/O#: 102802 Sequence#: 26 Date: 4/2/2020  
 15.407(b)(4) Radiated Spurious Emissions - Client Devices Test Distance: 3 Meters Perp



— Sweep Data  
 — Readings  
 ○ Peak Readings  
 × QP Readings  
 \* Average Readings  
 ▼ Ambient  
 Software Version: 5.03.12  
 — 1 - 15.407(b)(4) Radiated Spurious Emissions - Client Devices

**Test Equipment:**

| ID | Asset #    | Description                                | Model                           | Calibration Date | Cal Due Date |
|----|------------|--------------------------------------------|---------------------------------|------------------|--------------|
|    | AN01467    | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                            | 7/5/2019         | 7/5/2021     |
| T1 | ANP06515   | Cable                                      | Heliac                          | 6/29/2018        | 6/29/2020    |
| T2 | ANP06540   | Cable                                      | Heliac                          | 8/23/2019        | 8/23/2021    |
|    | AN02872    | Spectrum Analyzer                          | E4440A                          | 11/18/2019       | 11/18/2021   |
|    | AN03540    | Preamplifier                               | 83017A                          | 5/13/2019        | 5/13/2021    |
|    | ANP07504   | Cable                                      | CLU40-<br>KMKM-02.00F           | 1/17/2019        | 1/17/2021    |
| T3 | AN02741    | Active Horn<br>Antenna                     | AMFW-5F-<br>12001800-20-<br>10P | 4/26/2019        | 4/26/2021    |
| T4 | AN02742    | Active Horn<br>Antenna                     | AMFW-5F-<br>18002650-20-<br>10P | 10/16/2018       | 10/16/2020   |
| T5 | AN02763-69 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
| T6 | ANP06678   | Cable                                      | 32026-29801-<br>29801-144       | 2/20/2020        | 2/20/2022    |
| T7 | ANP07211   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
| T8 | ANP07212   | Cable                                      | 32026-29801-<br>29801-18        | 8/7/2019         | 8/7/2021     |
|    | AN02673    | Spectrum Analyzer                          | E4446A                          | 2/22/2019        | 2/22/2021    |
| T9 | AN02743    | Active Horn<br>Antenna                     | AMFW-5F-<br>260400-33-8P        | 4/26/2019        | 4/26/2021    |
|    | AN02764-70 | Waveguide                                  | Multiple                        | 4/23/2018        | 4/23/2020    |
|    | AN02307    | Preamplifier                               | 8447D                           | 1/10/2020        | 1/10/2022    |
|    | AN03628    | Biconilog Antenna                          | 3142E                           | 6/11/2019        | 6/11/2021    |
|    | ANP06123   | Attenuator                                 | 18N-6                           | 4/5/2019         | 4/5/2021     |
|    | ANP05305   | Cable                                      | ETSI-50T                        | 9/6/2019         | 9/6/2021     |
|    | ANP05360   | Cable                                      | RG214                           | 2/3/2020         | 2/3/2022     |
|    | AN00052    | Loop Antenna                               | 6502                            | 5/7/2018         | 5/7/2020     |



**Measurement Data:**

Reading listed by margin.

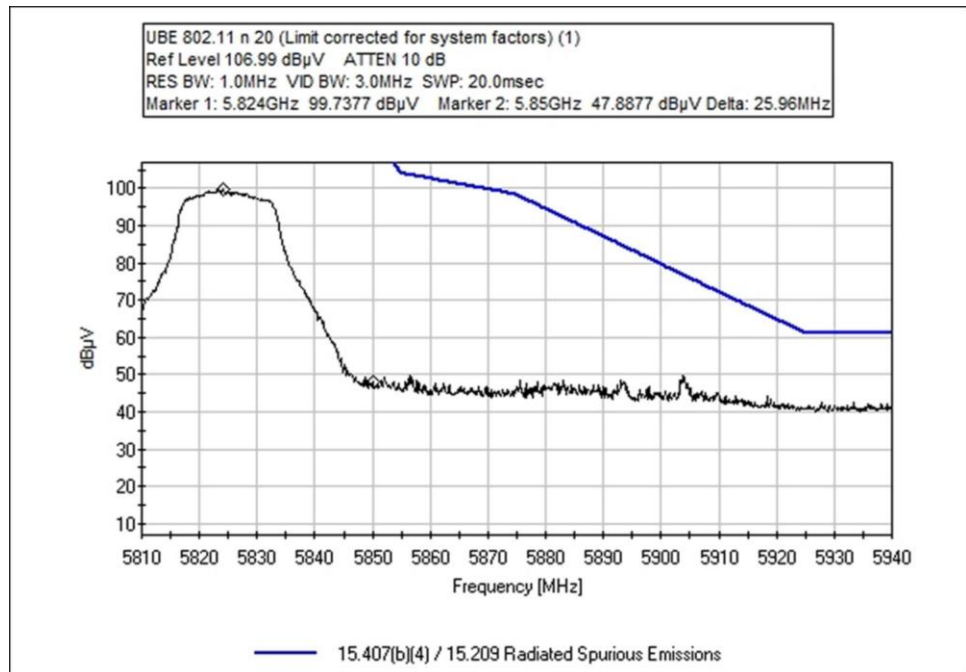
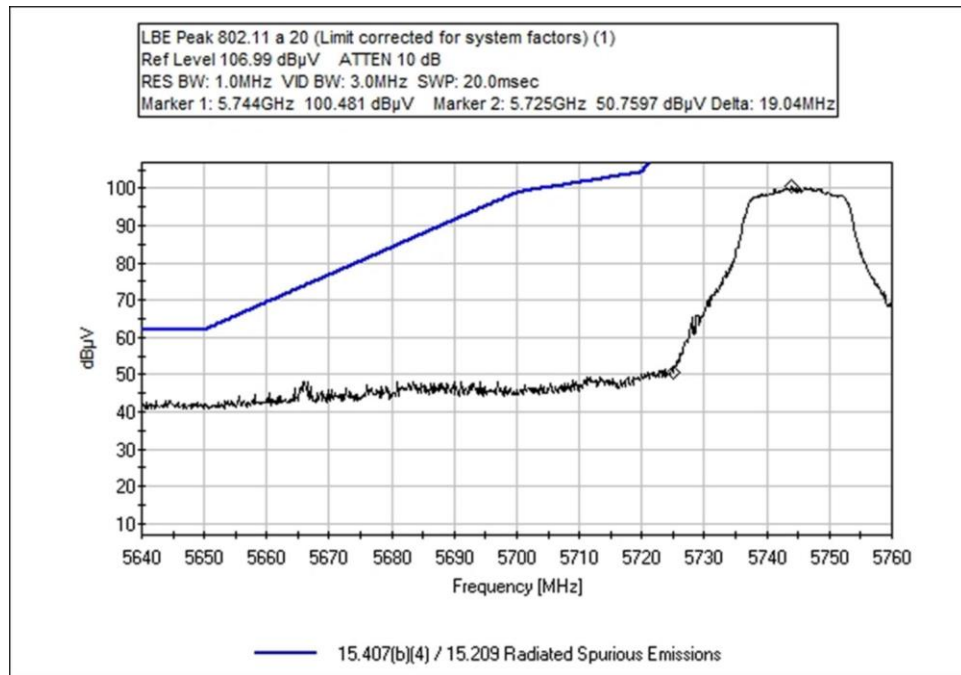
Test Distance: 3 Meters

| # | Freq           | Rdng       | T1<br>T5<br>T9       | T2<br>T6      | T3<br>T7      | T4<br>T8      | Dist  | Corr         | Spec         | Margin | Polar |
|---|----------------|------------|----------------------|---------------|---------------|---------------|-------|--------------|--------------|--------|-------|
|   | MHz            | dB $\mu$ V | dB                   | dB            | dB            | dB            | Table | dB $\mu$ V/m | dB $\mu$ V/m | dB     | Ant   |
| 1 | 34530.000<br>M | 40.3       | +0.0<br>+0.0<br>+2.1 | +0.0<br>+12.3 | +0.0<br>+1.2  | +0.0<br>+1.5  | +0.0  | 57.4         | 68.2         | -10.8  | Horiz |
| 2 | 23020.000<br>M | 45.3       | +0.0<br>+1.7<br>+0.0 | +0.0<br>+9.5  | +0.0<br>+0.8  | -15.7<br>+1.3 | +0.0  | 42.9         | 68.2         | -25.3  | Horiz |
| 3 | 11590.100<br>M | 43.8       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 38.8         | 68.2         | -29.4  | Horiz |
| 4 | 11497.400<br>M | 42.0       | +6.6<br>+0.0<br>+0.0 | +1.6<br>+0.0  | -13.2<br>+0.0 | +0.0<br>+0.0  | +0.0  | 37.0         | 68.2         | -31.2  | Horiz |

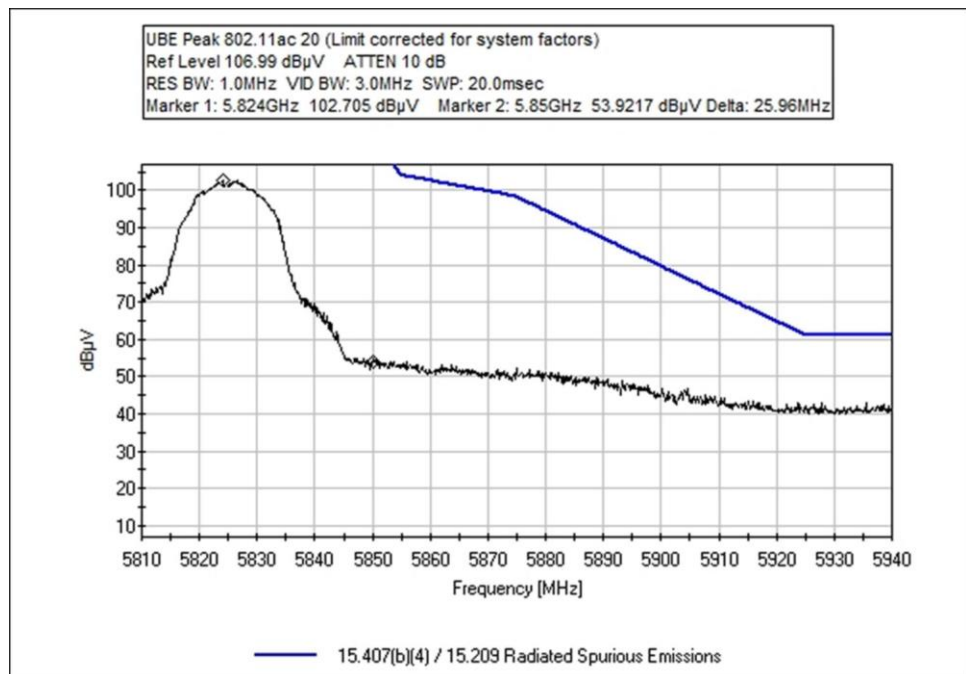
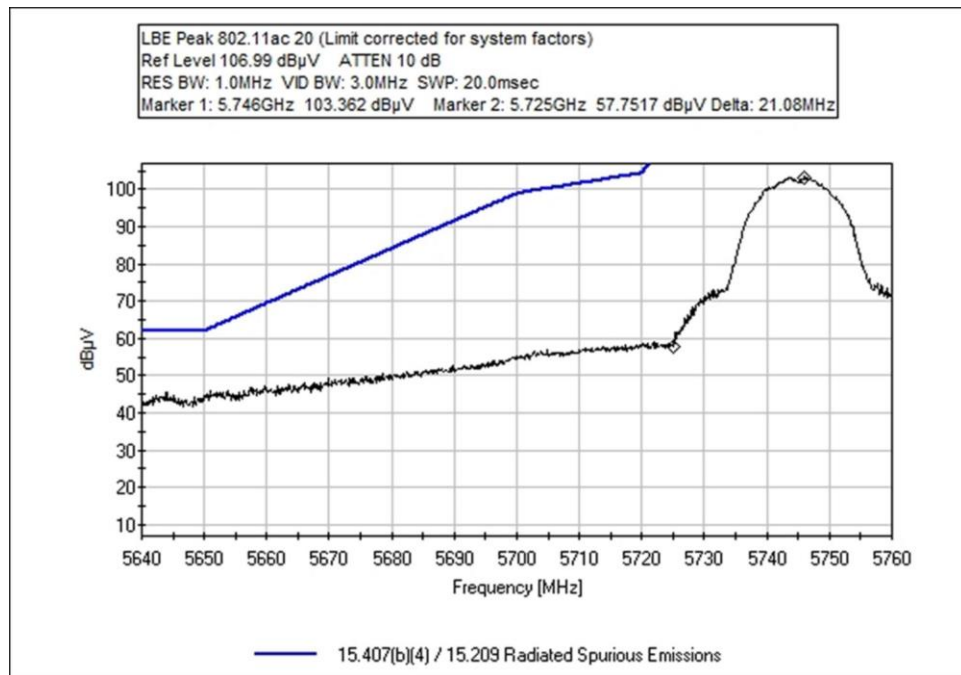
| Band Edge Summary |            |                           |                             |                    |         |
|-------------------|------------|---------------------------|-----------------------------|--------------------|---------|
| Frequency (MHz)   | Modulation | Ant. Type                 | Field Strength (dBuV/m @3m) | Limit (dBuV/m @3m) | Results |
| 5725              | 802.11a    | Linear Polarized / 5.9dBi | 57.2                        | <122.2             | Pass    |
| 5850              | 802.11a    | Linear Polarized / 5.9dBi | 54.6                        | <122.2             | Pass    |
| 5725              | 802.11n20  | Linear Polarized / 5.9dBi | 61.9                        | <122.2             | Pass    |
| 5850              | 802.11n20  | Linear Polarized / 5.9dBi | 59.3                        | <122.2             | Pass    |
| 5725              | 802.11n40  | Linear Polarized / 5.9dBi | 63.7                        | <122.2             | Pass    |
| 5850              | 802.11n40  | Linear Polarized / 5.9dBi | 61.9                        | <122.2             | Pass    |
| 5725              | 802.11ac20 | Linear Polarized / 5.9dBi | 64.2                        | <122.2             | Pass    |
| 5850              | 802.11ac20 | Linear Polarized / 5.9dBi | 60.6                        | <122.2             | Pass    |
| 5725              | 802.11ac40 | Linear Polarized / 5.9dBi | 64                          | <122.2             | Pass    |
| 5850              | 802.11ac40 | Linear Polarized / 5.9dBi | 61.3                        | <122.2             | Pass    |
| 5725              | 802.11ac80 | Linear Polarized / 5.9dBi | 64                          | <122.2             | Pass    |
| 5850              | 802.11ac80 | Linear Polarized / 5.9dBi | 63.6                        | <122.2             | Pass    |

## Band Edge

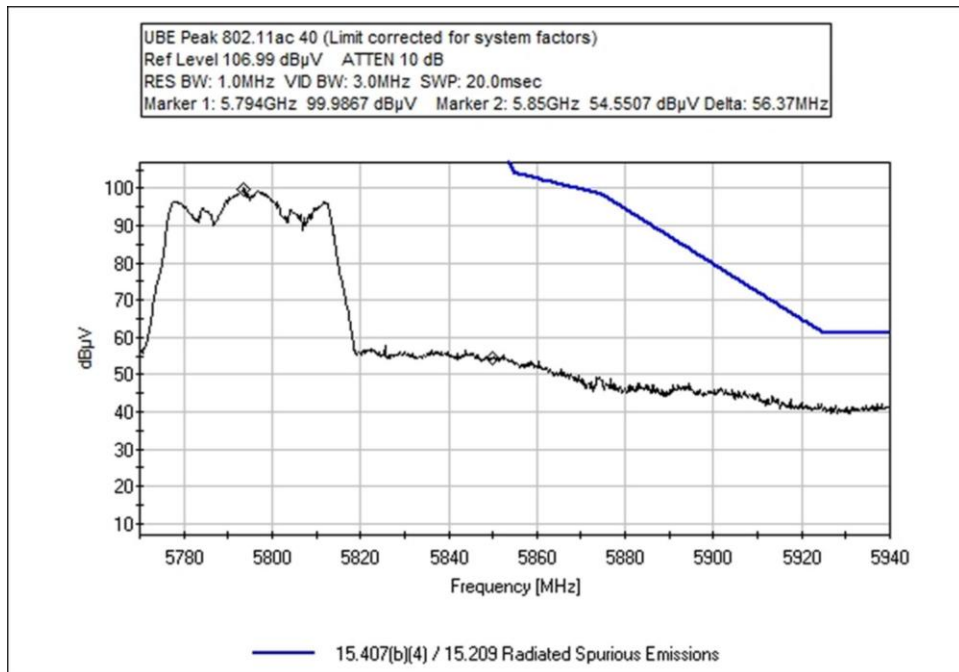
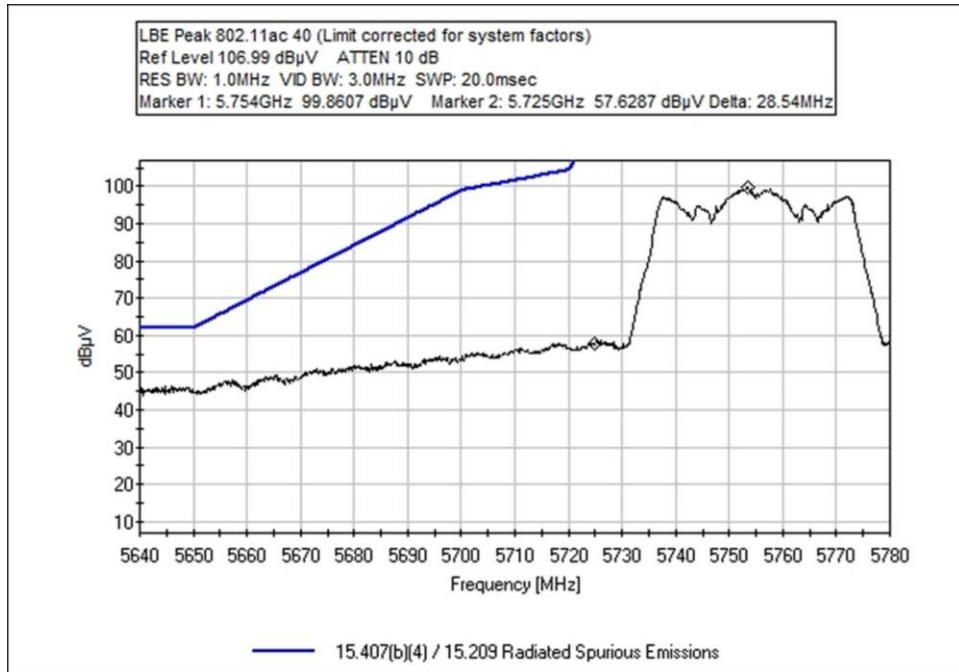
### 802.11a Plots



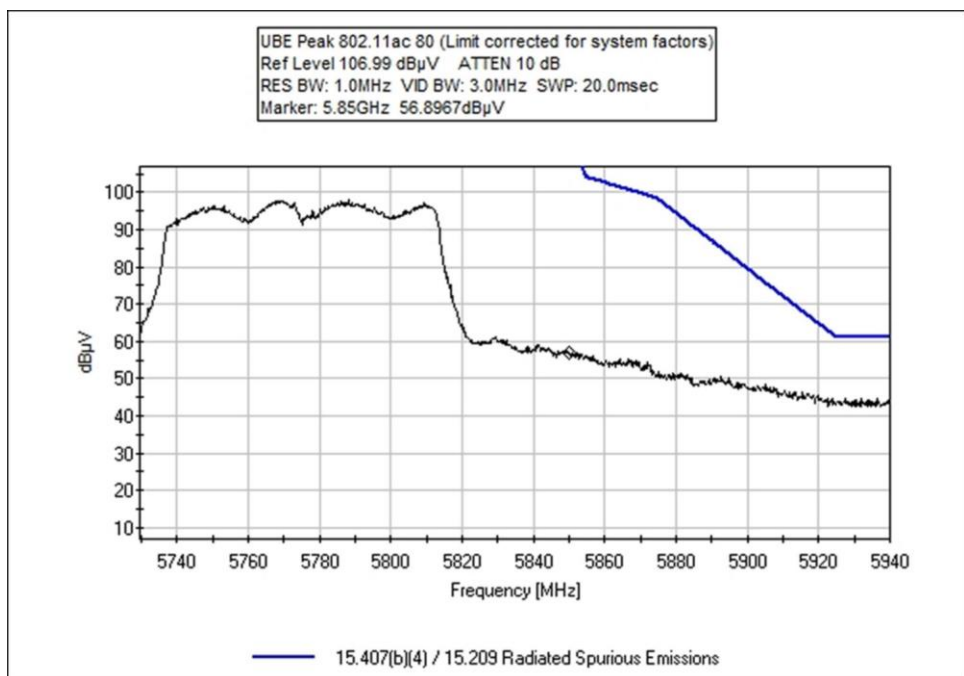
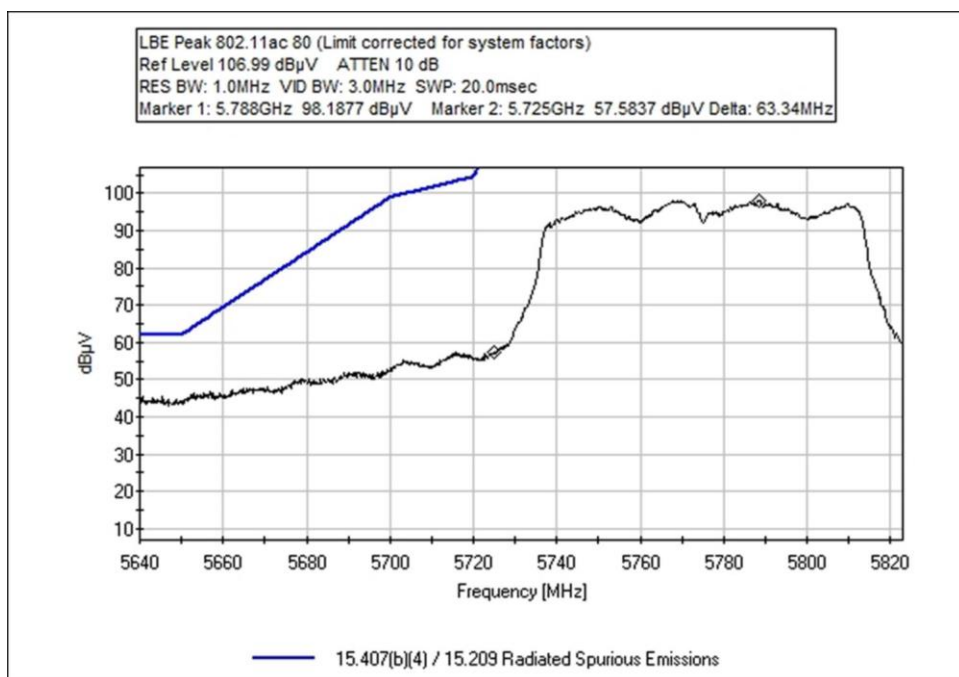
## 802.11ac20 Plots



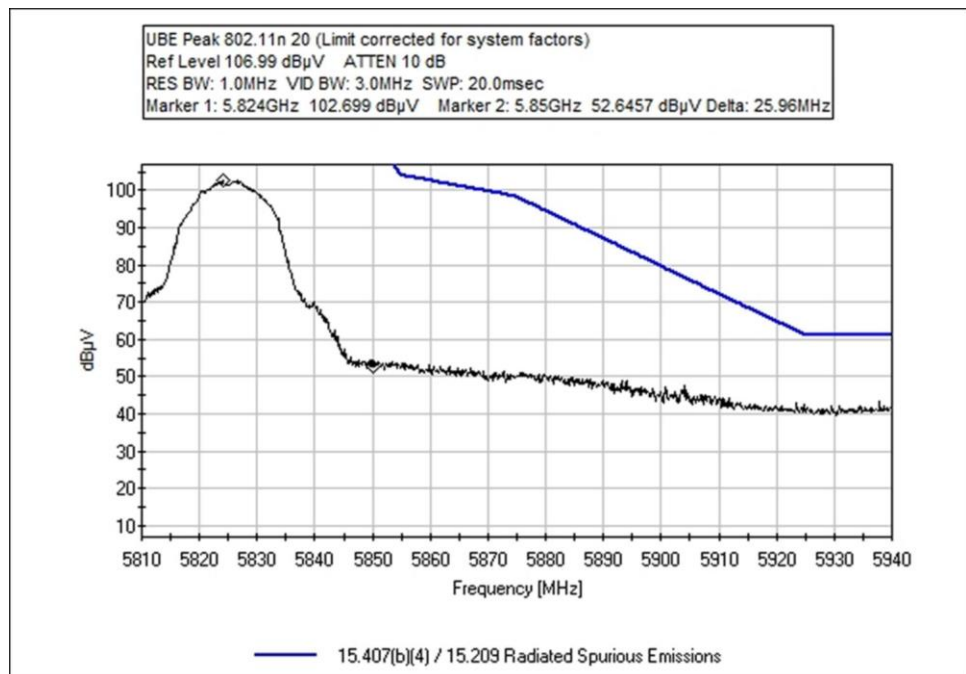
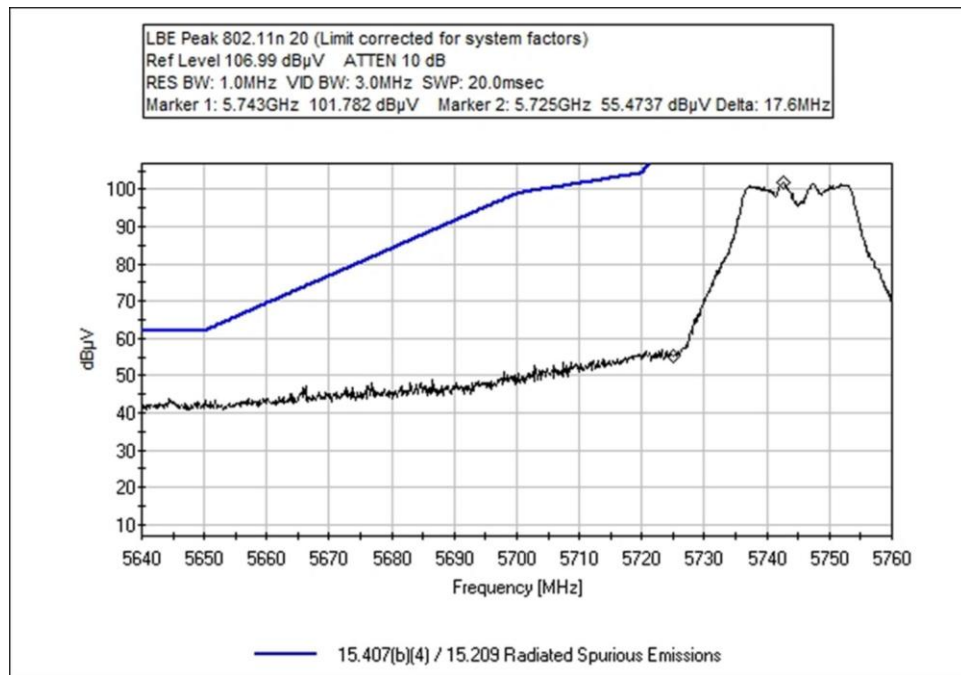
## 802.11ac40 Plots



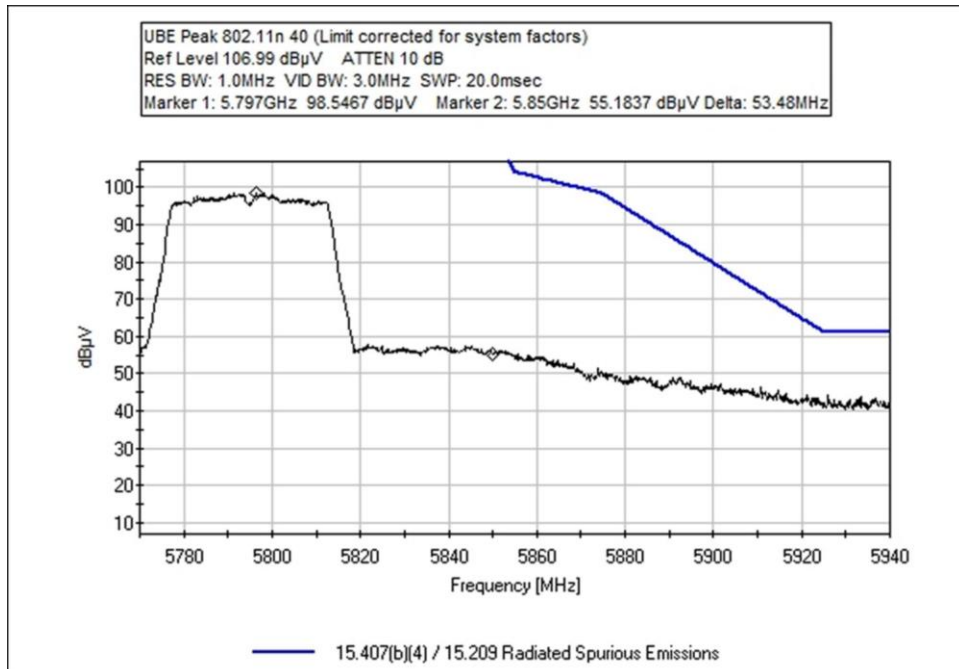
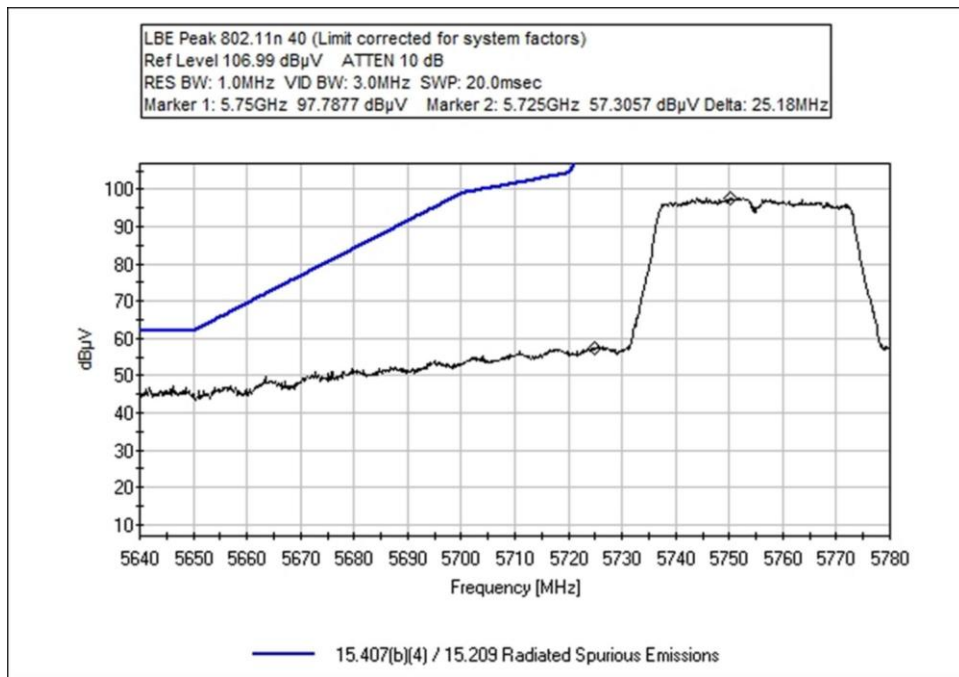
## 802.11ac80 Plots



## 802.11n20 Plots



## 802.11n40 Plots





### Test Setup/ Conditions/ Data

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) / 15.209 Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 3/20/2020  
 Test Type: **Maximized Emissions** Time: 08:16:40  
 Tested By: Matthew Harrison Sequence#: 15  
 Software: EMITest 5.03.12

#### Equipment Tested:

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

#### Support Equipment:

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

#### Test Conditions / Notes:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Environmental Conditions:<br/>         Temperature: 22° C<br/>         Humidity: 45%<br/>         Pressure: 101.3 kPa</p> <p>Frequency Range: 5640-5940 MHz<br/>         Frequency tested: 5745, 5825 MHz</p> <p>Firmware power setting: 14 dBm<br/>         EUT Firmware:<br/>         Protocol /MCS/Modulation: 802.11a, 20MHz BW, 6Mbps(worst-case)</p> <p>Antenna type: Linear Polarized<br/>         Antenna Gain: 5.9 dBi.</p> <p>Duty Cycle: 100% Modulated</p> <p>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br/>         Test Mode: Transmitting<br/>         Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br/>         Setup: EUT is connected to a Laptop via USB and Audio cable.</p> <p>All data rates investigated, worst-case provided</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Test Equipment:**

| ID | Asset #  | Description                            | Model                 | Calibration Date | Cal Due Date |
|----|----------|----------------------------------------|-----------------------|------------------|--------------|
| T1 | AN01467  | Horn Antenna-ANSI<br>C63.5 Calibration | 3115                  | 7/5/2019         | 7/5/2021     |
| T2 | ANP06515 | Cable                                  | Heliast               | 6/29/2018        | 6/29/2020    |
| T3 | ANP06540 | Cable                                  | Heliast               | 8/23/2019        | 8/23/2021    |
| T4 | AN02872  | Spectrum Analyzer                      | E4440A                | 11/18/2019       | 11/18/2021   |
| T5 | AN03540  | Preamplifier                           | 83017A                | 5/13/2019        | 5/13/2021    |
| T6 | ANP07504 | Cable                                  | CLU40-<br>KMKM-02.00F | 1/17/2019        | 1/17/2021    |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq<br>MHz | Rdng<br>dBμV | T1<br>T5<br>dB | T2<br>T6<br>dB | T3<br>dB | T4<br>dB | Dist<br>Table | Corr<br>dBμV/m | Spec<br>dBμV/m | Margin<br>dB | Polar<br>Ant |
|---|-------------|--------------|----------------|----------------|----------|----------|---------------|----------------|----------------|--------------|--------------|
| 1 | 5743.920M   | 100.7        | +34.1<br>-33.7 | +4.5<br>+0.5   | +1.0     | +0.0     | +0.0<br>265   | 107.1          | 131.2          | -24.1        | Horiz<br>180 |
| 2 | 5824.040M   | 99.7         | +34.4<br>-33.8 | +4.6<br>+0.5   | +1.0     | +0.0     | +0.0<br>260   | 106.4          | 131.2          | -24.8        | Horiz<br>180 |
| 3 | 5725.000M   | 50.8         | +34.1<br>-33.7 | +4.5<br>+0.5   | +1.0     | +0.0     | +0.0          | 57.2           | 122.2          | -65.0        | Horiz        |
| 4 | 5850.000M   | 47.9         | +34.4<br>-33.8 | +4.6<br>+0.5   | +1.0     | +0.0     | +0.0          | 54.6           | 122.2          | -67.6        | Horiz        |



Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) / 15.209 Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 3/20/2020  
 Test Type: **Maximized Emissions** Time: 09:32:13  
 Tested By: Matthew Harrison Sequence#: 17  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22° C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 5640-5940 MHz<br>Frequency tested: 5745, 5825 MHz<br>Firmware power setting: 14 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11ac, 20MHz BW, MCS0 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Test Equipment:**

| ID | Asset #  | Description                            | Model                 | Calibration Date | Cal Due Date |
|----|----------|----------------------------------------|-----------------------|------------------|--------------|
| T1 | AN01467  | Horn Antenna-ANSI<br>C63.5 Calibration | 3115                  | 7/5/2019         | 7/5/2021     |
| T2 | ANP06515 | Cable                                  | Heliac                | 6/29/2018        | 6/29/2020    |
| T3 | ANP06540 | Cable                                  | Heliac                | 8/23/2019        | 8/23/2021    |
|    | AN02872  | Spectrum Analyzer                      | E4440A                | 11/18/2019       | 11/18/2021   |
| T4 | AN03540  | Preamplifier                           | 83017A                | 5/13/2019        | 5/13/2021    |
| T5 | ANP07504 | Cable                                  | CLU40-<br>KMKM-02.00F | 1/17/2019        | 1/17/2021    |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq<br>MHz | Rdng<br>dBμV | T1<br>T5<br>dB | T2<br>dB | T3<br>dB | T4<br>dB | Dist<br>Table | Corr<br>dBμV/m | Spec<br>dBμV/m | Margin<br>dB | Polar<br>Ant |
|---|-------------|--------------|----------------|----------|----------|----------|---------------|----------------|----------------|--------------|--------------|
| 1 | 5746.080M   | 103.4        | +34.2<br>+0.5  | +4.6     | +1.0     | -33.7    | +0.0          | 110.0          | 131.2          | -21.2        | Horiz        |
| 2 | 5824.040M   | 102.7        | +34.4<br>+0.5  | +4.6     | +1.0     | -33.8    | +0.0          | 109.4          | 131.2          | -21.8        | Horiz        |
| 3 | 5725.000M   | 57.8         | +34.1<br>+0.5  | +4.5     | +1.0     | -33.7    | +0.0          | 64.2           | 122.2          | -58.0        | Horiz        |
| 4 | 5850.000M   | 53.9         | +34.4<br>+0.5  | +4.6     | +1.0     | -33.8    | +0.0          | 60.6           | 122.2          | -61.6        | Horiz        |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) / 15.209 Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 3/20/2020  
 Test Type: **Maximized Emissions** Time: 09:53:34  
 Tested By: Matthew Harrison Sequence#: 18  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22° C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 5640-5940 MHz<br>Frequency tested: 5755, 5795 MHz<br>Firmware power setting: 13 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11ac, 40MHz BW, MCS0 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Test Equipment:**

| ID | Asset #  | Description                            | Model                 | Calibration Date | Cal Due Date |
|----|----------|----------------------------------------|-----------------------|------------------|--------------|
| T1 | AN01467  | Horn Antenna-ANSI<br>C63.5 Calibration | 3115                  | 7/5/2019         | 7/5/2021     |
| T2 | ANP06515 | Cable                                  | Heliac                | 6/29/2018        | 6/29/2020    |
| T3 | ANP06540 | Cable                                  | Heliac                | 8/23/2019        | 8/23/2021    |
|    | AN02872  | Spectrum Analyzer                      | E4440A                | 11/18/2019       | 11/18/2021   |
| T4 | AN03540  | Preamplifier                           | 83017A                | 5/13/2019        | 5/13/2021    |
| T5 | ANP07504 | Cable                                  | CLU40-<br>KMKM-02.00F | 1/17/2019        | 1/17/2021    |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq      | Rdng  | T1<br>T5      | T2   | T3   | T4    | Dist  | Corr   | Spec   | Margin | Polar |
|---|-----------|-------|---------------|------|------|-------|-------|--------|--------|--------|-------|
|   | MHz       | dBμV  | dB            | dB   | dB   | dB    | Table | dBμV/m | dBμV/m | dB     | Ant   |
| 1 | 5793.630M | 100.0 | +34.3<br>+0.5 | +4.6 | +1.0 | -33.8 | +0.0  | 106.6  | 131.2  | -24.6  | Horiz |
| 2 | 5753.540M | 99.9  | +34.2<br>+0.5 | +4.6 | +1.0 | -33.7 | +0.0  | 106.5  | 131.2  | -24.7  | Horiz |
| 3 | 5725.000M | 57.6  | +34.1<br>+0.5 | +4.5 | +1.0 | -33.7 | +0.0  | 64.0   | 122.2  | -58.2  | Horiz |
| 4 | 5850.000M | 54.6  | +34.4<br>+0.5 | +4.6 | +1.0 | -33.8 | +0.0  | 61.3   | 122.2  | -60.9  | Horiz |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) / 15.209 Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 3/20/2020  
 Test Type: **Maximized Emissions** Time: 10:41:39  
 Tested By: Matthew Harrison Sequence#: 20  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22° C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 5640-5940 MHz<br>Frequency tested: 5775 MHz<br>Firmware power setting: 13 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11ac, 80MHz BW, MCS0 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Test Equipment:**

| ID | Asset #  | Description                                | Model                 | Calibration Date | Cal Due Date |
|----|----------|--------------------------------------------|-----------------------|------------------|--------------|
| T1 | AN01467  | Horn Antenna-<br>ANSI C63.5<br>Calibration | 3115                  | 7/5/2019         | 7/5/2021     |
| T2 | ANP06515 | Cable                                      | Heliac                | 6/29/2018        | 6/29/2020    |
| T3 | ANP06540 | Cable                                      | Heliac                | 8/23/2019        | 8/23/2021    |
| T4 | AN02872  | Spectrum Analyzer                          | E4440A                | 11/18/2019       | 11/18/2021   |
| T5 | AN03540  | Preamplifier                               | 83017A                | 5/13/2019        | 5/13/2021    |
| T6 | ANP07504 | Cable                                      | CLU40-<br>KMKM-02.00F | 1/17/2019        | 1/17/2021    |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq      | Rdng | T1<br>T5       | T2<br>T6     | T3   | T4   | Dist        | Corr   | Spec   | Margin | Polar        |
|---|-----------|------|----------------|--------------|------|------|-------------|--------|--------|--------|--------------|
|   | MHz       | dBμV | dB             | dB           | dB   | dB   | Table       | dBμV/m | dBμV/m | dB     | Ant          |
| 1 | 5788.340M | 98.2 | +34.3<br>-33.8 | +4.6<br>+0.5 | +1.0 | +0.0 | +0.0<br>125 | 104.8  | 131.2  | -26.4  | Horiz<br>200 |
| 2 | 5725.000M | 57.6 | +34.1<br>-33.7 | +4.5<br>+0.5 | +1.0 | +0.0 | +0.0        | 64.0   | 122.2  | -58.2  | Horiz        |
| 3 | 5850.000M | 56.9 | +34.4<br>-33.8 | +4.6<br>+0.5 | +1.0 | +0.0 | +0.0        | 63.6   | 122.2  | -58.6  | Horiz        |





Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) / 15.209 Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 3/20/2020  
 Test Type: **Maximized Emissions** Time: 09:08:05  
 Tested By: Matthew Harrison Sequence#: 16  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22° C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 5640-5940 MHz<br>Frequency tested: 5745, 5825 MHz<br>Firmware power setting: 14 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11n, 20MHz BW, MCS8 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Test Equipment:**

| ID | Asset #  | Description                            | Model                 | Calibration Date | Cal Due Date |
|----|----------|----------------------------------------|-----------------------|------------------|--------------|
| T1 | AN01467  | Horn Antenna-ANSI<br>C63.5 Calibration | 3115                  | 7/5/2019         | 7/5/2021     |
| T2 | ANP06515 | Cable                                  | Heliac                | 6/29/2018        | 6/29/2020    |
| T3 | ANP06540 | Cable                                  | Heliac                | 8/23/2019        | 8/23/2021    |
|    | AN02872  | Spectrum Analyzer                      | E4440A                | 11/18/2019       | 11/18/2021   |
| T4 | AN03540  | Preamplifier                           | 83017A                | 5/13/2019        | 5/13/2021    |
| T5 | ANP07504 | Cable                                  | CLU40-<br>KMKM-02.00F | 1/17/2019        | 1/17/2021    |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq<br>MHz | Rdng<br>dBμV | T1<br>T5<br>dB | T2<br>dB | T3<br>dB | T4<br>dB | Dist<br>Table | Corr<br>dBμV/m | Spec<br>dBμV/m | Margin<br>dB | Polar<br>Ant |
|---|-------------|--------------|----------------|----------|----------|----------|---------------|----------------|----------------|--------------|--------------|
| 1 | 5824.040M   | 102.7        | +34.4<br>+0.5  | +4.6     | +1.0     | -33.8    | +0.0          | 109.4          | 131.2          | -21.8        | Horiz        |
| 2 | 5742.600M   | 101.8        | +34.1<br>+0.5  | +4.5     | +1.0     | -33.7    | +0.0          | 108.2          | 131.2          | -23.0        | Horiz        |
| 3 | 5725.000M   | 55.5         | +34.1<br>+0.5  | +4.5     | +1.0     | -33.7    | +0.0          | 61.9           | 122.2          | -60.3        | Horiz        |
| 4 | 5850.000M   | 52.6         | +34.4<br>+0.5  | +4.6     | +1.0     | -33.8    | +0.0          | 59.3           | 122.2          | -62.9        | Horiz        |

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.407(b)(4) / 15.209 Radiated Spurious Emissions**  
 Work Order #: **102802** Date: 3/20/2020  
 Test Type: **Maximized Emissions** Time: 10:06:43  
 Tested By: Matthew Harrison Sequence#: 19  
 Software: EMITest 5.03.12

***Equipment Tested:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Support Equipment:***

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

***Test Conditions / Notes:***

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Conditions:<br>Temperature: 22° C<br>Humidity: 45%<br>Pressure: 101.3 kPa<br><br>Frequency Range: 5640-5940 MHz<br>Frequency tested: 5755, 5795 MHz<br>Firmware power setting: 14 dBm<br>EUT Firmware:<br>Protocol /MCS/Modulation: 802.11n, 40MHz BW, MCS8 (worst-case)<br><br>Antenna type: Linear Polarized<br>Antenna Gain: 5.9 dBi.<br><br>Duty Cycle: 100% Modulated<br><br>Test Method: ANSI C63.10: 2013 KDB 789033 v02r01 December 14, 2017)<br>Test Mode: Transmitting<br>Test Setup: EUT is setup 1.5m high on a Styrofoam table.<br>Setup: EUT is connected to a Laptop via USB and Audio cable.<br><br>All data rates investigated, worst-case provided |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Test Equipment:**

| ID | Asset #  | Description                         | Model             | Calibration Date | Cal Due Date |
|----|----------|-------------------------------------|-------------------|------------------|--------------|
| T1 | AN01467  | Horn Antenna-ANSI C63.5 Calibration | 3115              | 7/5/2019         | 7/5/2021     |
| T2 | ANP06515 | Cable                               | Heliac            | 6/29/2018        | 6/29/2020    |
| T3 | ANP06540 | Cable                               | Heliac            | 8/23/2019        | 8/23/2021    |
|    | AN02872  | Spectrum Analyzer                   | E4440A            | 11/18/2019       | 11/18/2021   |
| T4 | AN03540  | Preamplifier                        | 83017A            | 5/13/2019        | 5/13/2021    |
| T5 | ANP07504 | Cable                               | CLU40-KMKM-02.00F | 1/17/2019        | 1/17/2021    |

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

| # | Freq      | Rdng | T1<br>T5      | T2   | T3   | T4    | Dist  | Corr   | Spec   | Margin | Polar |
|---|-----------|------|---------------|------|------|-------|-------|--------|--------|--------|-------|
|   | MHz       | dBμV | dB            | dB   | dB   | dB    | Table | dBμV/m | dBμV/m | dB     | Ant   |
| 1 | 5796.520M | 98.5 | +34.3<br>+0.5 | +4.6 | +1.0 | -33.8 | +0.0  | 105.1  | 131.2  | -26.1  | Horiz |
| 2 | 5750.180M | 97.8 | +34.2<br>+0.5 | +4.6 | +1.0 | -33.7 | +0.0  | 104.4  | 131.2  | -26.8  | Horiz |
| 3 | 5725.000M | 57.3 | +34.1<br>+0.5 | +4.5 | +1.0 | -33.7 | +0.0  | 63.7   | 122.2  | -58.5  | Horiz |
| 4 | 5850.000M | 55.2 | +34.4<br>+0.5 | +4.6 | +1.0 | -33.8 | +0.0  | 61.9   | 122.2  | -60.3  | Horiz |

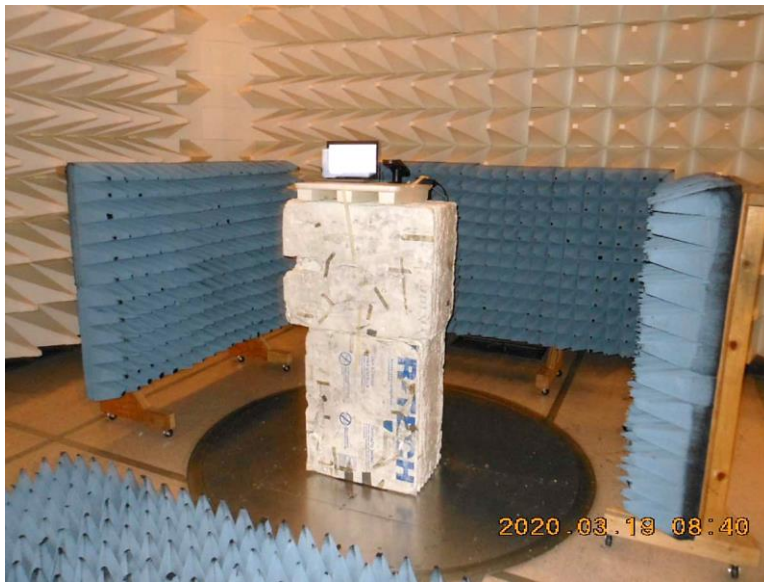
Test Setup Photo(s)



Below 1GHz



Below 1GHz



Above 1GHz



Above 1GHz

## 15.207 AC Conducted Emissions

### Test Data

Test Location: CKC Laboratories, Inc. • 22116 23rd Dr SE • Bothell, WA 98021 • 800-500-4362  
 Customer: **Nalloy, LLC.**  
 Specification: **15.207 AC Mains - Average**  
 Work Order #: **102802** Date: 4/1/2020  
 Test Type: **Conducted Emissions** Time: 08:08:31  
 Tested By: Matthew Harrison Sequence#: 88  
 Software: EMITest 5.03.12 120V 60Hz

#### Equipment Tested:

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

#### Support Equipment:

| Device          | Manufacturer | Model # | S/N |
|-----------------|--------------|---------|-----|
| Configuration 1 |              |         |     |

#### Test Conditions / Notes:

Environmental Conditions:  
 Temperature: 22° C  
 Humidity: 28%  
 Pressure: 101.3 kPa

Frequency Range: 150kHz-30MHz  
 Frequency tested: 5745 MHz  
 Firmware power setting: 14 dBm  
 EUT Firmware:  
 Protocol /MCS/Modulation: 802.11a, 20MHz BW, 6Mbps(worst-case)

Antenna type: Linear Polarized  
 Antenna Gain: 5.9 dBi.

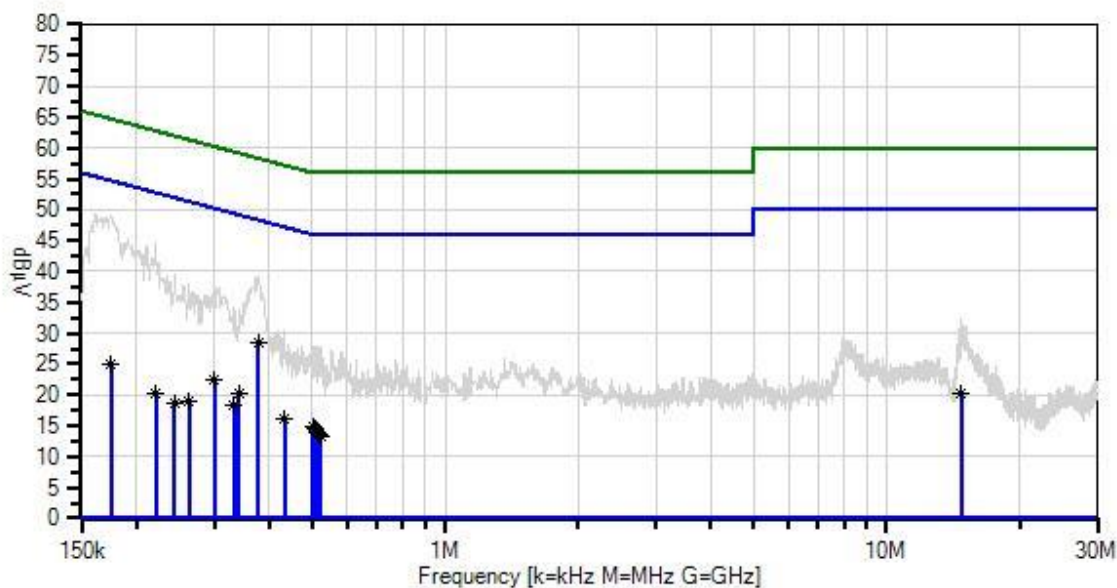
Duty Cycle: 100% Modulated

Test Method: ANSI C63.10: 2013  
 Test Mode: Transmitting  
 Test Setup: EUT is setup for conducted measurements.  
 Setup: EUT is connected to a Laptop via USB and Audio cable.

All modes, channels, and data rates investigated, worst-case provided.



Nalloy, LLC. WO#: 102802 Sequence#: 88 Date: 4/1/2020  
15.207 AC Mains - Average Test Lead: 120V 60Hz Line



**Test Equipment:**

| ID | Asset #  | Description         | Model               | Calibration Date | Cal Due Date |
|----|----------|---------------------|---------------------|------------------|--------------|
|    | AN02872  | Spectrum Analyzer   | E4440A              | 11/18/2019       | 11/18/2021   |
| T1 | ANP06219 | Attenuator          | 768-10              | 4/13/2018        | 4/13/2020    |
| T2 | ANP06515 | Cable               | Heliac              | 6/29/2018        | 6/29/2020    |
| T3 | ANP06540 | Cable               | Heliac              | 8/23/2019        | 8/23/2021    |
| T4 | AN01311  | 50uH LISN-Line1 (L) | 3816/2              | 2/24/2020        | 2/24/2022    |
|    | AN01311  | 50uH LISN-Line2 (N) | 3816/2              | 2/24/2020        | 2/24/2022    |
| T5 | AN02611  | High Pass Filter    | HE9615-150K-50-720B | 1/10/2020        | 1/10/2022    |



**Measurement Data:**

Reading listed by margin.

Test Lead: Line

| #  | Freq<br>MHz | Rdng<br>dB $\mu$ V | T1<br>T5<br>dB | T2<br>dB | T3<br>dB | T4<br>dB | Dist<br>Table | Corr<br>dB $\mu$ V | Spec<br>dB $\mu$ V | Margin<br>dB | Polar<br>Ant |
|----|-------------|--------------------|----------------|----------|----------|----------|---------------|--------------------|--------------------|--------------|--------------|
| 1  | 378.343k    | 19.7               | +9.1           | +0.0     | +0.0     | -0.6     | +0.0          | 28.4               | 48.3               | -19.9        | Line         |
|    | Ave         |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| ^  | 378.342k    | 30.4               | +9.1           | +0.0     | +0.0     | -0.6     | +0.0          | 39.1               | 48.3               | -9.2         | Line         |
|    |             |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| 3  | 299.804k    | 13.9               | +9.1           | +0.0     | +0.0     | -0.7     | +0.0          | 22.4               | 50.2               | -27.8        | Line         |
|    | Ave         |                    | +0.1           |          |          |          |               |                    |                    |              |              |
| ^  | 299.804k    | 31.8               | +9.1           | +0.0     | +0.0     | -0.7     | +0.0          | 40.3               | 50.2               | -9.9         | Line         |
|    |             |                    | +0.1           |          |          |          |               |                    |                    |              |              |
| 5  | 341.255k    | 11.5               | +9.1           | +0.0     | +0.0     | -0.6     | +0.0          | 20.1               | 49.2               | -29.1        | Line         |
|    | Ave         |                    | +0.1           |          |          |          |               |                    |                    |              |              |
| ^  | 341.255k    | 25.3               | +9.1           | +0.0     | +0.0     | -0.6     | +0.0          | 33.9               | 49.2               | -15.3        | Line         |
|    |             |                    | +0.1           |          |          |          |               |                    |                    |              |              |
| 7  | 174.725k    | 17.0               | +9.1           | +0.0     | +0.0     | -1.5     | +0.0          | 25.0               | 54.7               | -29.7        | Line         |
|    | Ave         |                    | +0.4           |          |          |          |               |                    |                    |              |              |
| ^  | 174.725k    | 41.1               | +9.1           | +0.0     | +0.0     | -1.5     | +0.0          | 49.1               | 54.7               | -5.6         | Line         |
|    |             |                    | +0.4           |          |          |          |               |                    |                    |              |              |
| 9  | 14.725M     | 11.2               | +9.1           | +0.2     | +0.1     | -0.6     | +0.0          | 20.2               | 50.0               | -29.8        | Line         |
|    | Ave         |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| ^  | 14.725M     | 23.2               | +9.1           | +0.2     | +0.1     | -0.6     | +0.0          | 32.2               | 50.0               | -17.8        | Line         |
|    |             |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| 11 | 432.156k    | 7.3                | +9.1           | +0.1     | +0.0     | -0.5     | +0.0          | 16.2               | 47.2               | -31.0        | Line         |
|    | Ave         |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| ^  | 432.155k    | 21.4               | +9.1           | +0.1     | +0.0     | -0.5     | +0.0          | 30.3               | 47.2               | -16.9        | Line         |
|    |             |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| 13 | 332.529k    | 9.8                | +9.1           | +0.0     | +0.0     | -0.6     | +0.0          | 18.4               | 49.4               | -31.0        | Line         |
|    | Ave         |                    | +0.1           |          |          |          |               |                    |                    |              |              |
| ^  | 332.528k    | 25.6               | +9.1           | +0.0     | +0.0     | -0.6     | +0.0          | 34.2               | 49.4               | -15.2        | Line         |
|    |             |                    | +0.1           |          |          |          |               |                    |                    |              |              |
| 15 | 501.968k    | 5.9                | +9.1           | +0.0     | +0.0     | -0.4     | +0.0          | 14.8               | 46.0               | -31.2        | Line         |
|    | Ave         |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| ^  | 501.967k    | 19.0               | +9.1           | +0.0     | +0.0     | -0.4     | +0.0          | 27.9               | 46.0               | -18.1        | Line         |
|    |             |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| 17 | 507.785k    | 5.6                | +9.1           | +0.0     | +0.0     | -0.4     | +0.0          | 14.5               | 46.0               | -31.5        | Line         |
|    | Ave         |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| ^  | 507.785k    | 19.1               | +9.1           | +0.0     | +0.0     | -0.4     | +0.0          | 28.0               | 46.0               | -18.0        | Line         |
|    |             |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| 19 | 515.785k    | 4.9                | +9.1           | +0.0     | +0.0     | -0.4     | +0.0          | 13.8               | 46.0               | -32.2        | Line         |
|    | Ave         |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| 20 | 262.717k    | 10.4               | +9.1           | +0.0     | +0.0     | -0.8     | +0.0          | 18.9               | 51.3               | -32.4        | Line         |
|    | Ave         |                    | +0.2           |          |          |          |               |                    |                    |              |              |
| ^  | 262.716k    | 29.4               | +9.1           | +0.0     | +0.0     | -0.8     | +0.0          | 37.9               | 51.3               | -13.4        | Line         |
|    |             |                    | +0.2           |          |          |          |               |                    |                    |              |              |

|    |          |      |      |      |      |      |      |      |      |       |      |
|----|----------|------|------|------|------|------|------|------|------|-------|------|
| 22 | 221.266k | 12.0 | +9.1 | +0.0 | +0.0 | -1.1 | +0.0 | 20.3 | 52.8 | -32.5 | Line |
|    | Ave      |      | +0.3 |      |      |      |      |      |      |       |      |
| ^  | 221.266k | 36.3 | +9.1 | +0.0 | +0.0 | -1.1 | +0.0 | 44.6 | 52.8 | -8.2  | Line |
|    |          |      | +0.3 |      |      |      |      |      |      |       |      |
| 24 | 518.693k | 4.6  | +9.1 | +0.0 | +0.0 | -0.4 | +0.0 | 13.5 | 46.0 | -32.5 | Line |
|    | Ave      |      | +0.2 |      |      |      |      |      |      |       |      |
| ^  | 515.784k | 19.0 | +9.1 | +0.0 | +0.0 | -0.4 | +0.0 | 27.9 | 46.0 | -18.1 | Line |
|    |          |      | +0.2 |      |      |      |      |      |      |       |      |
| 26 | 522.329k | 4.5  | +9.1 | +0.0 | +0.0 | -0.4 | +0.0 | 13.4 | 46.0 | -32.6 | Line |
|    | Ave      |      | +0.2 |      |      |      |      |      |      |       |      |
| ^  | 522.329k | 19.0 | +9.1 | +0.0 | +0.0 | -0.4 | +0.0 | 27.9 | 46.0 | -18.1 | Line |
|    |          |      | +0.2 |      |      |      |      |      |      |       |      |
| ^  | 518.693k | 18.6 | +9.1 | +0.0 | +0.0 | -0.4 | +0.0 | 27.5 | 46.0 | -18.5 | Line |
|    |          |      | +0.2 |      |      |      |      |      |      |       |      |
| 29 | 243.810k | 10.1 | +9.1 | +0.0 | +0.0 | -0.9 | +0.0 | 18.5 | 52.0 | -33.5 | Line |
|    | Ave      |      | +0.2 |      |      |      |      |      |      |       |      |
| ^  | 243.809k | 31.3 | +9.1 | +0.0 | +0.0 | -0.9 | +0.0 | 39.7 | 52.0 | -12.3 | Line |
|    |          |      | +0.2 |      |      |      |      |      |      |       |      |