| $\begin{array}{cc} \hline 17 & 36971.101 \\ \mathrm{M} \end{array}$ | 46.8 | +10.4 | +3.4 | -107.0 | +0.0 | -46.4 | -40.0 | -6.4 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 18 \text { 3807.087M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 35.1 | +9.9 | +1.0 | -107.0 | +0.0 | -61.0 | -40.0 | -21.0 | Ant1 |
| ^ 3807.087M | 64.4 | +9.9 | +1.0 | -107.0 | +0.0 | -31.7 | -40.0 | +8.3 | Ant1 |
| $\begin{gathered} 203803.083 \mathrm{M} \\ \text { Ave } \\ \hline \end{gathered}$ | 35.1 | +9.9 | +1.0 | -107.0 | +0.0 | -61.0 | -40.0 | -21.0 | Ant1 |
| ^ 3803.083M | 65.4 | +9.9 | +1.0 | -107.0 | +0.0 | -30.7 | -40.0 | +9.3 | Ant1 |
| $\begin{aligned} & 223836.116 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 34.7 | +9.9 | +1.0 | -107.0 | +0.0 | -61.4 | -40.0 | -21.4 | Ant1 |
| ^ 3836.116M | 65.4 | +9.9 | +1.0 | -107.0 | +0.0 | -30.7 | -40.0 | +9.3 | Ant1 |
| $\begin{aligned} & 24 \text { 3767.047M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 34.2 | +9.9 | +1.0 | -107.0 | +0.0 | -61.9 | -40.0 | -21.9 | Ant1 |
| ^ 3767.047M | 62.8 | +9.9 | +1.0 | -107.0 | +0.0 | -33.3 | -40.0 | +6.7 | Ant1 |
| $\begin{aligned} & 263725.005 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 33.0 | +9.9 | +1.0 | -107.0 | +0.0 | -63.1 | -40.0 | -23.1 | Ant1 |
| ^ 3725.005M | 58.3 | +9.9 | +1.0 | -107.0 | +0.0 | -37.8 | -40.0 | +2.2 | Ant1 |
| $\begin{aligned} & 283720.000 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 32.9 | +9.9 | +1.0 | -107.0 | +0.0 | -63.2 | -40.0 | -23.2 | Ant1 |
| ^ 3720.000M | 57.5 | +9.9 | +1.0 | -107.0 | +0.0 | -38.6 | -40.0 | +1.4 | Ant1 |
| $\begin{gathered} 30 \text { 3882.162M } \\ \text { Ave } \end{gathered}$ | 31.0 | +9.9 | +1.0 | -107.0 | +0.0 | -65.1 | -40.0 | -25.1 | Ant1 |
| ^ 3882.162M | 61.6 | +9.9 | +1.0 | -107.0 | +0.0 | -34.5 | -40.0 | +5.5 | Ant1 |
| $\begin{aligned} & 323900.180 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 29.6 | +9.9 | +1.0 | -107.0 | +0.0 | -66.5 | -40.0 | -26.5 | Ant1 |
| ^ 3900.180M | 61.7 | +9.9 | +1.0 | -107.0 | +0.0 | -34.4 | -40.0 | +5.6 | Ant1 |
| $\begin{aligned} & 347106.383 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 28.7 | +10.0 | +1.5 | -107.0 | +0.0 | -66.8 | -40.0 | -26.8 | Ant1 |
| ^ 7106.383M | 54.1 | +10.0 | +1.5 | -107.0 | +0.0 | -41.4 | -40.0 | -1.4 | Ant1 |


| $\begin{aligned} & 367113.390 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 28.6 | +10.0 | +1.5 | -107.0 | +0.0 | -66.9 | -40.0 | -26.9 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge$ ^ 7113.390 M | 54.6 | +10.0 | +1.5 | -107.0 | +0.0 | -40.9 | -40.0 | -0.9 | Ant 1 |
| $\begin{aligned} & 383923.203 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 28.8 | +9.9 | +1.0 | -107.0 | +0.0 | -67.3 | -40.0 | -27.3 | Ant1 |
| ^ 3923.203M | 56.4 | +9.9 | +1.0 | -107.0 | +0.0 | -39.7 | -40.0 | +0.3 | Ant 1 |
| $\begin{aligned} & 403978.258 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 27.5 | +9.9 | +1.1 | -107.0 | +0.0 | -68.5 | -40.0 | -28.5 | Ant 1 |
| ^ 3978.258M | 53.0 | +9.9 | +1.1 | -107.0 | +0.0 | -43.0 | -40.0 | -3.0 | Ant 1 |
| $\begin{aligned} & 42 \text { 4219.499M } \\ & \text { Ave } \end{aligned}$ | 22.8 | +9.9 | +1.1 | -107.0 | +0.0 | -73.2 | -40.0 | -33.2 | Ant1 |
| $\wedge$ 4219.499M | 52.4 | +9.9 | +1.1 | -107.0 | +0.0 | -43.6 | -40.0 | -3.6 | Ant 1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
Software: EMITest 5.03.12

Date: 3/6/2020
Time: 07:38:34
Sequence\#: 7
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 9kHz - 3530 MHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$
VBW: 3x RBW

Transmitter Settings:
Transmit Frequency: 3625 MHz
Modulation: QPSK
Channel Bandwidth: 10 MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.


[^0]—— Readings
QP Readings

- Ambient
1-47 CFR $\S 96.41$ e Spurious Emissions

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. $\quad$ Test Lead: Ant1

| \#Freq <br>  <br>  <br> MHz | $\begin{gathered} \mathrm{Rdng} \\ \mathrm{~dB} \mu \mathrm{~V} \end{gathered}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T3} \\ & \mathrm{~dB} \end{aligned}$ | dB | Dist Table | $\begin{aligned} & \text { Corr } \\ & \text { dBm } \end{aligned}$ | Spec dBm | Margin dB | $\begin{gathered} \text { Polar } \\ \text { Ant } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2826.500M | 51.1 | +9.9 | +0.9 | -107.0 |  | +0.0 | -45.1 | -40.0 | -5.1 | Ant1 |
| 2580.000 M | 51.5 | +9.9 | +0.4 | -107.0 |  | +0.0 | -45.2 | -40.0 | -5.2 | Ant1 |
| 3 377.000M | 51.3 | +9.9 | +0.3 | -107.0 |  | +0.0 | -45.5 | -40.0 | -5.5 | Ant1 |
| 4544.500 M | 50.0 | +9.9 | +0.4 | -107.0 |  | $+0.0$ | -46.7 | -40.0 | -6.7 | Ant1 |
| 5746.500 M | 48.0 | +9.9 | +0.5 | -107.0 |  | +0.0 | -48.6 | -40.0 | -8.6 | Ant1 |
| $\begin{aligned} & 6 \text { 3260.626M } \\ & \text { Ave } \end{aligned}$ | 41.1 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.0 | -40.0 | -15.0 | Ant1 |
| ^ 3260.626M | 69.3 | +9.9 | +1.0 | -107.0 |  | +0.0 | -26.8 | -40.0 | +13.2 | Ant1 |
| $\begin{aligned} & 83129.500 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 38.4 | +9.9 | +0.9 | -107.0 |  | +0.0 | -57.8 | -40.0 | -17.8 | Ant1 |
| 3129.500M | 65.1 | +9.9 | +0.9 | -107.0 |  | +0.0 | -31.1 | -40.0 | +8.9 | Ant1 |
| $\begin{aligned} & 103423.300 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 38.1 | +9.9 | +1.0 | -107.0 |  | +0.0 | -58.0 | -40.0 | -18.0 | Ant1 |
| ^ 3423.300M | 62.6 | +9.9 | +1.0 | -107.0 |  | $+0.0$ | -33.5 | -40.0 | +6.5 | Ant1 |
| $\begin{aligned} & 122872.600 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 33.5 | +9.9 | +0.9 | -107.0 |  | +0.0 | -62.7 | -40.0 | -22.7 | Ant1 |
| ^ 2872.600M | 58.4 | +9.9 | +0.9 | -107.0 |  | +0.0 | -37.8 | -40.0 | +2.2 | Ant1 |
| $\begin{gathered} 14 \begin{array}{l} 334.000 \mathrm{M} \\ \text { Ave } \end{array} \\ \hline \end{gathered}$ | 14.9 | +9.9 | +0.3 | -107.0 |  | +0.0 | -81.9 | -40.0 | -41.9 | Ant1 |
| ^ 334.000M | 54.5 | +9.9 | +0.3 | -107.0 |  | +0.0 | -42.3 | -40.0 | -2.3 | Ant1 |
| $\begin{gathered} 16 \begin{array}{l} 313.000 \mathrm{M} \\ \text { Ave } \\ \hline \end{array}{ }^{2} \\ \hline \end{gathered}$ | 14.5 | +9.9 | +0.3 | -107.0 |  | +0.0 | -82.3 | -40.0 | -42.3 | Ant1 |
| ^ 313.000M | 51.9 | +9.9 | +0.3 | -107.0 |  | +0.0 | -44.9 | -40.0 | -4.9 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
Software: EMITest 5.03.12

Date: 3/6/2020
Time: 07:49:03
Sequence\#: 8
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 3.72-37 GHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$
VBW: 3x RBW

Transmitter Settings:
Transmit Frequency: 3625 MHz
Modulation: QPSK
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.

Mercury Wireless WO\#: 103300 Sequence\#f: 8 Date: $3 / 6 / 2020$
47 CFR $\S 96.41$ e Spurious Emissions Test Lead: 120 V 60 Hz Ant 1


|  | Sweep Data |
| :--- | :--- |
|  | Peak Readings |
| * Readings |  |
| Average Readings | QP Readings |
|  | Software Version: 5.03 .12 |$\quad$| Ambient |
| :--- |

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: Reading listed by margin. Test Lead: Ant1

| \# | Freq MHz | $\begin{aligned} & \text { Rdng } \\ & \mathrm{dB} \mu \mathrm{~V} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{gathered} \text { T3 } \\ \text { dB } \end{gathered}$ | dB | Dist <br> Table | Corr dBm | Spec <br> dBm | $\begin{gathered} \hline \text { Margin } \\ \mathrm{dB} \\ \hline \end{gathered}$ | Polar Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} 36787.827 \\ \mathrm{M} \end{gathered}$ | 47.9 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.3 | -40.0 | -5.3 | Ant1 |
|  | $\begin{gathered} 36795.978 \\ \mathrm{M} \end{gathered}$ | 47.6 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.6 | -40.0 | -5.6 | Ant1 |
| 3 | $\begin{gathered} 36789.062 \\ \mathrm{M} \end{gathered}$ | 47.5 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.7 | -40.0 | -5.7 | Ant1 |
|  | $\begin{gathered} 36513.761 \\ \mathrm{M} \end{gathered}$ | 47.4 | +10.5 | +3.3 | -107.0 |  | +0.0 | -45.8 | -40.0 | -5.8 | Ant1 |
|  | $\begin{gathered} 36656.904 \\ \mathrm{M} \end{gathered}$ | 47.3 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.9 | -40.0 | -5.9 | Ant1 |
| 6 | $\begin{gathered} 36747.995 \\ \mathrm{M} \end{gathered}$ | 47.2 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.0 | -40.0 | -6.0 | Ant1 |
| 7 | $\begin{gathered} 36890.579 \\ \mathrm{M} \end{gathered}$ | 47.1 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.1 | -40.0 | -6.1 | Ant1 |
|  | $\begin{gathered} 36696.944 \\ \mathrm{M} \end{gathered}$ | 47.0 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.2 | -40.0 | -6.2 | Ant1 |
|  | $\begin{gathered} 36998.518 \\ \mathrm{M} \end{gathered}$ | 46.8 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.4 | -40.0 | -6.4 | Ant1 |
| 10 | $\begin{gathered} 36955.787 \\ \mathrm{M} \end{gathered}$ | 46.7 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.5 | -40.0 | -6.5 | Ant1 |
| 11 | $\begin{gathered} 36981.475 \\ \mathrm{M} \end{gathered}$ | 46.7 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.5 | -40.0 | -6.5 | Ant1 |
|  | $\begin{gathered} 36887.121 \\ \mathrm{M} \end{gathered}$ | 46.7 | $+10.4$ | +3.4 | -107.0 |  | +0.0 | -46.5 | -40.0 | -6.5 | Ant1 |
| 13 | 4178.458M | 49.4 | +9.9 | +1.1 | -107.0 |  | +0.0 | -46.6 | -40.0 | -6.6 | Ant1 |
|  | $\begin{gathered} 36701.949 \\ \mathrm{M} \end{gathered}$ | 46.5 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.7 | -40.0 | -6.7 | Ant1 |
| 15 | $\begin{gathered} 36990.614 \\ \mathrm{M} \end{gathered}$ | 46.5 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.7 | -40.0 | -6.7 | Ant1 |
| 16 | $\begin{gathered} 36979.252 \\ \mathrm{M} \end{gathered}$ | 46.4 | $+10.4$ | +3.4 | -107.0 |  | +0.0 | -46.8 | -40.0 | -6.8 | Ant1 |


| $\begin{array}{cc} 17 & 36228.476 \\ & M \end{array}$ | 46.4 | +10.5 | +3.2 | -107.0 | +0.0 | -46.9 | -40.0 | -6.9 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{cc} 18 & 36925.406 \\ M \end{array}$ | 46.3 | +10.4 | +3.4 | -107.0 | +0.0 | -46.9 | -40.0 | -6.9 | Ant1 |
| $\begin{array}{cc} 19 & 36922.195 \\ \mathrm{M} \end{array}$ | 46.2 | +10.4 | +3.4 | -107.0 | +0.0 | -47.0 | -40.0 | -7.0 | Ant1 |
| $\begin{array}{cc} 20 & 36165.413 \\ & M \end{array}$ | 45.9 | +10.5 | +3.2 | -107.0 | +0.0 | -47.4 | -40.0 | -7.4 | Ant1 |
| 21 4076.356M | 48.5 | +9.9 | +1.1 | -107.0 | +0.0 | -47.5 | -40.0 | -7.5 | Ant1 |
| $\begin{array}{cc} 22 & 36214.462 \\ M \end{array}$ | 45.7 | +10.5 | +3.2 | -107.0 | +0.0 | -47.6 | -40.0 | -7.6 | Ant1 |
| $\begin{array}{cc} 23 & 36921.207 \\ \text { M } \\ \text { Ave } \end{array}$ | 33.7 | +10.4 | +3.4 | -107.0 | +0.0 | -59.5 | -40.0 | -19.5 | Ant1 |
| $\begin{gathered} \wedge 36921.207 \\ \mathrm{M} \end{gathered}$ | 48.3 | +10.4 | +3.4 | -107.0 | +0.0 | -44.9 | -40.0 | -4.9 | Ant1 |
| $\begin{aligned} & 25 \text { 3756.036M } \\ & \text { Ave } \end{aligned}$ | 33.9 | +9.9 | +1.0 | -107.0 | +0.0 | -62.2 | -40.0 | -22.2 | Ant1 |
| $\wedge 3756.036 \mathrm{M}$ | 56.3 | +9.9 | +1.0 | -107.0 | +0.0 | -39.8 | -40.0 | +0.2 | Ant1 |
| $\begin{aligned} & 273891.171 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 30.6 | +9.9 | +1.0 | -107.0 | +0.0 | -65.5 | -40.0 | -25.5 | Ant1 |
| $\wedge 3891.171 \mathrm{M}$ | 60.3 | +9.9 | +1.0 | -107.0 | +0.0 | -35.8 | -40.0 | +4.2 | Ant1 |
| $\begin{aligned} & 29 \text { 3919.199M } \\ & \text { Ave } \end{aligned}$ | 30.5 | +9.9 | +1.0 | -107.0 | +0.0 | -65.6 | -40.0 | -25.6 | Ant1 |
| $\wedge 3919.199 \mathrm{M}$ | 61.1 | +9.9 | +1.0 | -107.0 | +0.0 | -35.0 | -40.0 | +5.0 | Ant1 |
| $\begin{aligned} & 317246.523 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 28.5 | +10.0 | +1.5 | -107.0 | +0.0 | -67.0 | -40.0 | -27.0 | Ant1 |
| $\wedge$ 7246.523M | 54.8 | +10.0 | +1.5 | -107.0 | +0.0 | -40.7 | -40.0 | -0.7 | Ant1 |
| $\begin{aligned} & 337253.530 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 28.2 | +10.0 | +1.5 | -107.0 | +0.0 | -67.3 | -40.0 | -27.3 | Ant1 |
| $\wedge 7253.530 \mathrm{M}$ | 55.1 | +10.0 | +1.5 | -107.0 | +0.0 | -40.4 | -40.0 | -0.4 | Ant1 |
| $\begin{gathered} 353954.234 \mathrm{M} \\ \text { Ave } \\ \hline \end{gathered}$ | 28.6 | +9.9 | +1.1 | -107.0 | +0.0 | -67.4 | -40.0 | -27.4 | Ant1 |
| $\wedge 3954.234 \mathrm{M}$ | 60.0 | +9.9 | +1.1 | -107.0 | +0.0 | -36.0 | -40.0 | +4.0 | Ant1 |
| $\begin{aligned} & 37 \text { 3989.269M } \\ & \text { Ave } \end{aligned}$ | 26.0 | +9.9 | +1.1 | -107.0 | +0.0 | -70.0 | -40.0 | -30.0 | Ant1 |
| $\wedge 3989.269 \mathrm{M}$ | 53.8 | +9.9 | +1.1 | -107.0 | +0.0 | -42.2 | -40.0 | -2.2 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
Software: EMITest 5.03.12

Date: 3/6/2020
Time: 07:59:42
Sequence\#: 9
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 9kHz - 3530 MHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$
VBW: 3x RBW

Transmitter Settings:
Transmit Frequency: 3625 MHz
Modulation: QAM16
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.


```
Sweep Data
O Peak Readings
* Average Readings
Software Version: 5.03.12
* QP Readings
    1-47 CFR }\S96.41e Spurious Emission
```

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. $\quad$ Test Lead: Ant1

| \#Freq  <br>  MHz | $\begin{aligned} & \text { Rdng } \\ & \mathrm{dB} \mu \mathrm{~V} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \text { dB } \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \text { T3 } \\ & \text { dB } \end{aligned}$ | dB | $\begin{gathered} \hline \text { Dist } \\ \text { Table } \end{gathered}$ | $\begin{aligned} & \hline \text { Corr } \\ & \text { dBm } \end{aligned}$ | Spec dBm | Margin dB | Polar Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1592.500 M | 52.6 | +9.9 | +0.4 | -107.0 |  | +0.0 | -44.1 | -40.0 | -4.1 | Ant1 |
| 2334.500 M | 51.9 | +9.9 | +0.3 | -107.0 |  | +0.0 | -44.9 | -40.0 | -4.9 | Ant1 |
| $3 \quad 309.000 \mathrm{M}$ | 51.1 | +9.9 | +0.3 | -107.0 |  | +0.0 | -45.7 | -40.0 | -5.7 | Ant1 |
| $4 \quad 543.500 \mathrm{M}$ | 50.4 | +9.9 | +0.4 | -107.0 |  | +0.0 | -46.3 | -40.0 | -6.3 | Ant1 |
| $5 \quad 662.000 \mathrm{M}$ | 47.9 | +9.9 | +0.5 | -107.0 |  | +0.0 | -48.7 | -40.0 | -8.7 | Ant 1 |
| $\begin{aligned} & 6 \text { 3278.680M } \\ & \text { Ave } \end{aligned}$ | 40.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.2 | -40.0 | -15.2 | Ant1 |
| ^ 3278.680M | 67.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -28.7 | -40.0 | +11.3 | Ant1 |
| $\begin{aligned} & 83250.686 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 40.6 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.5 | -40.0 | -15.5 | Ant1 |
| $\wedge 3250.686 \mathrm{M}$ | 68.8 | +9.9 | +1.0 | -107.0 |  | +0.0 | -27.3 | -40.0 | +12.7 | Ant1 |
| $\begin{aligned} & 103401.250 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 39.3 | +9.9 | +1.0 | -107.0 |  | +0.0 | -56.8 | -40.0 | -16.8 | Ant1 |
| ^ 3401.250M | 59.3 | +9.9 | +1.0 | -107.0 |  | +0.0 | -36.8 | -40.0 | +3.2 | Ant1 |
| $\begin{aligned} & 123328.120 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 38.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -57.7 | -40.0 | -17.7 | Ant1 |
| $\wedge 3328.120 \mathrm{M}$ | 61.7 | +9.9 | +1.0 | -107.0 |  | +0.0 | -34.4 | -40.0 | +5.6 | Ant1 |
| $\begin{aligned} & 143136.540 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 38.1 | +9.9 | +0.9 | -107.0 |  | +0.0 | -58.1 | -40.0 | -18.1 | Ant1 |
| $\wedge 3136.540 \mathrm{M}$ | 63.8 | +9.9 | +0.9 | -107.0 |  | +0.0 | -32.4 | -40.0 | +7.6 | Ant1 |
| $\begin{aligned} & 163453.780 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 36.6 | +9.9 | +1.0 | -107.0 |  | +0.0 | -59.5 | -40.0 | -19.5 | Ant1 |
| $\wedge 3453.780 \mathrm{M}$ | 57.1 | +9.9 | +1.0 | -107.0 |  | +0.0 | -39.0 | -40.0 | +1.0 | Ant1 |
| $\begin{aligned} & 183023.240 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 33.1 | +9.9 | +0.9 | -107.0 |  | +0.0 | -63.1 | -40.0 | -23.1 | Ant1 |
| $\wedge 3023.240 \mathrm{M}$ | 57.4 | +9.9 | +0.9 | -107.0 |  | +0.0 | -38.8 | -40.0 | +1.2 | Ant1 |
| $\begin{aligned} & 202863.590 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 32.6 | +9.9 | +0.9 | -107.0 |  | +0.0 | -63.6 | -40.0 | -23.6 | Ant1 |
| $\wedge 2863.590 \mathrm{M}$ | 58.5 | +9.9 | +0.9 | -107.0 |  | +0.0 | -37.7 | -40.0 | +2.3 | Ant1 |


| $\begin{aligned} & 22 \text { 2895.520M } \\ & \text { Ave } \end{aligned}$ | 30.5 | +9.9 | +0.9 | -107.0 | $+0.0$ | -65.7 | -40.0 | -25.7 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge 2895.520 \mathrm{M}$ | 56.4 | +9.9 | +0.9 | -107.0 | +0.0 | -39.8 | -40.0 | +0.2 | Ant1 |
| $\begin{aligned} & 242835.780 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 28.1 | +9.9 | +0.9 | -107.0 | +0.0 | -68.1 | -40.0 | -28.1 | Ant1 |
| $\wedge 2835.780 \mathrm{M}$ | 52.9 | +9.9 | +0.9 | -107.0 | +0.0 | -43.3 | -40.0 | -3.3 | Ant1 |
| $\begin{aligned} & 26 \begin{array}{l} 363.000 \mathrm{M} \\ \text { Ave } \end{array} \end{aligned}$ | 13.8 | +9.9 | +0.3 | -107.0 | +0.0 | -83.0 | -40.0 | -43.0 | Ant1 |
| $\wedge 363.000 \mathrm{M}$ | 53.1 | +9.9 | +0.3 | -107.0 | +0.0 | -43.7 | -40.0 | -3.7 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
Software: EMITest 5.03.12

Date: 3/6/2020
Time: 08:49:09
Sequence\#: 10
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 3.72-37 GHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$
VBW: 3x RBW

Transmitter Settings:
Transmit Frequency: 3625 MHz
Modulation: QAM16
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.

Mercury Wireless WO\#: 103300 Sequence\#f: 10 Date: 3/6/2020 47 CFR $\S 96.41$ e Spurious Emissions Test Lead: 120 V 60 Hz Ant 1



Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: Reading listed by margin. Test Lead: Ant1

| \# | Freq <br> MHz | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \text { T3 } \\ & \text { dB } \end{aligned}$ | dB | $\begin{gathered} \hline \text { Dist } \\ \text { Table } \end{gathered}$ | $\begin{aligned} & \text { Corr } \\ & \text { dBm } \end{aligned}$ | Spec <br> dBm | $\begin{gathered} \text { Margin } \\ \mathrm{dB} \end{gathered}$ | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $\begin{gathered} 36977.276 \\ \mathrm{M} \end{gathered}$ | 48.1 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.1 | -40.0 | -5.1 | Ant1 |
|  | $\begin{gathered} 36701.949 \\ \mathrm{M} \end{gathered}$ | 48.0 | $+10.4$ | +3.4 | -107.0 |  | +0.0 | -45.2 | -40.0 | -5.2 | Ant1 |
|  | $\begin{gathered} 36990.120 \\ \mathrm{M} \end{gathered}$ | 48.0 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.2 | -40.0 | -5.2 | Ant1 |
|  | $\begin{gathered} 36782.393 \\ \mathrm{M} \end{gathered}$ | 47.4 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.8 | -40.0 | -5.8 | Ant1 |
|  | $\begin{gathered} 36821.419 \\ \mathrm{M} \end{gathered}$ | 47.3 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.9 | -40.0 | -5.9 | Ant1 |
|  | $\begin{gathered} 36856.493 \\ \mathrm{M} \end{gathered}$ | 47.3 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.9 | -40.0 | -5.9 | Ant1 |
| 7 | $\begin{gathered} 36890.579 \\ \mathrm{M} \end{gathered}$ | 47.3 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.9 | -40.0 | -5.9 | Ant1 |
| 8 | $\begin{gathered} 36451.699 \\ \mathrm{M} \end{gathered}$ | 47.2 | +10.5 | +3.3 | -107.0 |  | +0.0 | -46.0 | -40.0 | -6.0 | Ant1 |
|  | $\begin{gathered} 36604.852 \\ \mathrm{M} \end{gathered}$ | 47.2 | $+10.5$ | +3.3 | -107.0 |  | +0.0 | -46.0 | -40.0 | -6.0 | Ant1 |
|  | $\begin{gathered} 36845.872 \\ \mathrm{M} \end{gathered}$ | 47.2 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.0 | -40.0 | -6.0 | Ant1 |
| 11 | $\begin{gathered} 36392.640 \\ \mathrm{M} \end{gathered}$ | 47.1 | +10.5 | +3.3 | -107.0 |  | +0.0 | -46.1 | -40.0 | -6.1 | Ant1 |
|  | $\begin{gathered} 36644.892 \\ \text { M } \end{gathered}$ | 47.1 | $+10.4$ | +3.3 | -107.0 |  | +0.0 | -46.2 | -40.0 | -6.2 | Ant1 |
| 13 | $\begin{gathered} 36657.905 \\ \mathrm{M} \end{gathered}$ | 47.0 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.2 | -40.0 | -6.2 | Ant1 |
| 14 | $\begin{gathered} 36810.304 \\ \mathrm{M} \end{gathered}$ | 47.0 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.2 | -40.0 | -6.2 | Ant1 |
| 15 | $\begin{gathered} 36792.767 \\ \mathrm{M} \end{gathered}$ | 46.9 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.3 | -40.0 | -6.3 | Ant1 |
| 16 | $\begin{gathered} 36779.676 \\ \mathrm{M} \end{gathered}$ | 46.9 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.3 | -40.0 | -6.3 | Ant1 |


|  | $\begin{gathered} 36763.621 \\ \mathrm{M} \end{gathered}$ | 46.9 | +10.4 | +3.4 | -107.0 | +0.0 | -46.3 | -40.0 | -6.3 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | $\begin{gathered} 36994.566 \\ \text { M } \end{gathered}$ | 46.9 | +10.4 | +3.4 | -107.0 | +0.0 | -46.3 | -40.0 | -6.3 | Ant1 |
| 19 | $\begin{gathered} 36974.559 \\ \mathrm{M} \end{gathered}$ | 46.9 | +10.4 | +3.4 | -107.0 | +0.0 | -46.3 | -40.0 | -6.3 | Ant1 |
| 20 | $\begin{gathered} 36802.894 \\ \mathrm{M} \end{gathered}$ | 46.9 | +10.4 | +3.4 | -107.0 | +0.0 | -46.3 | -40.0 | -6.3 | Ant1 |
| 21 | $\begin{gathered} 36785.604 \\ \mathrm{M} \end{gathered}$ | 46.8 | +10.4 | +3.4 | -107.0 | +0.0 | -46.4 | -40.0 | -6.4 | Ant1 |
| 22 | $\begin{gathered} 36950.353 \\ \mathrm{M} \end{gathered}$ | 46.8 | +10.4 | +3.4 | -107.0 | +0.0 | -46.4 | -40.0 | -6.4 | Ant1 |
|  | $\begin{aligned} & 3793.073 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 32.7 | +9.9 | +1.0 | -107.0 | +0.0 | -63.4 | -40.0 | -23.4 | Ant 1 |
| $\wedge$ | 3793.073M | 58.3 | +9.9 | +1.0 | -107.0 | +0.0 | -37.8 | -40.0 | +2.2 | Ant1 |
| 25 | $\begin{aligned} & \text { 3883.163M } \\ & \text { Ave } \end{aligned}$ | 29.8 | +9.9 | +1.0 | -107.0 | +0.0 | -66.3 | -40.0 | -26.3 | Ant1 |
| $\wedge$ | 3883.163M | 60.2 | +9.9 | +1.0 | -107.0 | +0.0 | -35.9 | -40.0 | +4.1 | Ant1 |
|  | $\begin{aligned} & 73949.229 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 27.8 | +9.9 | +1.1 | -107.0 | +0.0 | -68.2 | -40.0 | -28.2 | Ant1 |
| $\wedge$ | 3949.229M | 59.4 | +9.9 | +1.1 | -107.0 | +0.0 | -36.6 | -40.0 | +3.4 | Ant1 |
|  | $\begin{aligned} & 7249.526 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 27.0 | +10.0 | +1.5 | -107.0 | +0.0 | -68.5 | -40.0 | -28.5 | Ant1 |
| $\wedge$ | 7249.526M | 52.0 | +10.0 | +1.5 | -107.0 | +0.0 | -43.5 | -40.0 | -3.5 | Ant1 |
|  | $\begin{aligned} & 3971.251 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 26.6 | +9.9 | +1.1 | -107.0 | +0.0 | -69.4 | -40.0 | -29.4 | Ant1 |
|  | 3971.251M | 53.9 | +9.9 | +1.1 | -107.0 | +0.0 | -42.1 | -40.0 | -2.1 | Ant1 |
|  | $\begin{aligned} & 7246.523 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 25.6 | +10.0 | +1.5 | -107.0 | +0.0 | -69.9 | -40.0 | -29.9 | Ant 1 |
|  | 7246.523M | 52.4 | +10.0 | +1.5 | -107.0 | +0.0 | -43.1 | -40.0 | -3.1 | Ant1 |
|  | $\begin{aligned} & \text { 7253.530M } \\ & \text { Ave } \end{aligned}$ | 25.4 | +10.0 | +1.5 | -107.0 | +0.0 | -70.1 | -40.0 | -30.1 | Ant1 |
|  | 7253.530M | 52.9 | +10.0 | +1.5 | -107.0 | +0.0 | -42.6 | -40.0 | -2.6 | Ant1 |
|  | $\begin{aligned} & 7 \text { 3997.277M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 24.5 | +9.9 | +1.1 | -107.0 | +0.0 | -71.5 | -40.0 | -31.5 | Ant1 |
|  | 3997.277M | 54.2 | +9.9 | +1.1 | -107.0 | $+0.0$ | -41.8 | -40.0 | -1.8 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
EMITest 5.03.12

Date: 3/6/2020
Time: 09:10:33
Sequence\#: 11
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 9kHz - 3530 MHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$

VBW: 3x RBW
Transmitter Settings:
Transmit Frequency: 3625 MHz
Modulation: QAM64
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.


[^1]—— Readings QP Readings

- Ambient
1-47 CFR $\S 96.41$ e Spurious Emissions

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. $\quad$ Test Lead: Ant1

| \#Freq <br>  <br>  <br>  <br> MHz | $\begin{aligned} & \hline \text { Rdng } \\ & \mathrm{dB} \mu \mathrm{~V} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \text { T3 } \\ & \text { dB } \end{aligned}$ | dB | Dist Table | Corr <br> dBm | Spec <br> dBm | $\begin{gathered} \text { Margin } \\ \mathrm{dB} \end{gathered}$ | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1 \quad 532.000 \mathrm{M}$ | 50.5 | +9.9 | +0.4 | -107.0 |  | +0.0 | -46.2 | -40.0 | -6.2 | Ant1 |
| $2 \quad 585.500 \mathrm{M}$ | 50.4 | +9.9 | +0.4 | -107.0 |  | +0.0 | -46.3 | -40.0 | -6.3 | Ant1 |
| $3 \quad 371.000 \mathrm{M}$ | 50.2 | +9.9 | +0.3 | -107.0 |  | +0.0 | -46.6 | -40.0 | -6.6 | Ant1 |
| 4 2829.600M | 48.7 | +9.9 | +0.9 | -107.0 |  | +0.0 | -47.5 | -40.0 | -7.5 | Ant1 |
| $5 \quad 641.500 \mathrm{M}$ | 47.4 | +9.9 | +0.5 | -107.0 |  | +0.0 | -49.2 | -40.0 | -9.2 | Ant1 |
| $\begin{aligned} & 6 \text { 3271.063M } \\ & \text { Ave } \end{aligned}$ | 40.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.7 | -40.0 | -15.7 | Ant1 |
| ^ 3271.063M | 67.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -28.2 | -40.0 | +11.8 | Ant1 |
| $\begin{aligned} & 8 \text { 3267.350M } \\ & \text { Ave } \end{aligned}$ | 40.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.7 | -40.0 | -15.7 | Ant1 |
| ^ 3267.350M | 68.1 | +9.9 | +1.0 | -107.0 |  | +0.0 | -28.0 | -40.0 | +12.0 | Ant1 |
| $\begin{aligned} & 103330.180 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 37.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -58.2 | -40.0 | -18.2 | Ant1 |
| ^ 3330.180M | 60.5 | +9.9 | +1.0 | -107.0 |  | +0.0 | -35.6 | -40.0 | +4.4 | Ant1 |
| $\begin{aligned} & 123141.690 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 37.7 | +9.9 | +0.9 | -107.0 |  | +0.0 | -58.5 | -40.0 | -18.5 | Ant1 |
| ^ 3141.690M | 65.0 | +9.9 | +0.9 | -107.0 |  | +0.0 | -31.2 | -40.0 | +8.8 | Ant1 |
| $\begin{aligned} & 143402.280 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 37.2 | +9.9 | +1.0 | -107.0 |  | +0.0 | -58.9 | -40.0 | -18.9 | Ant1 |
| ^ 3402.280M | 59.6 | +9.9 | +1.0 | -107.0 |  | +0.0 | -36.5 | -40.0 | +3.5 | Ant1 |
| $\begin{aligned} & 163508.370 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 37.1 | +9.9 | +1.0 | -107.0 |  | +0.0 | -59.0 | -40.0 | $-19.0$ | Ant1 |
| $\wedge 3508.370 \mathrm{M}$ | 58.1 | +9.9 | +1.0 | -107.0 |  | +0.0 | -38.0 | -40.0 | +2.0 | Ant1 |
| $\begin{aligned} & 183381.680 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 36.3 | +9.9 | +1.0 | -107.0 |  | +0.0 | -59.8 | -40.0 | -19.8 | Ant1 |
| ^ 3381.680M | 58.3 | +9.9 | +1.0 | -107.0 |  | +0.0 | -37.8 | -40.0 | +2.2 | Ant1 |
| $\begin{aligned} & 203458.930 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 36.1 | +9.9 | +1.0 | -107.0 |  | +0.0 | -60.0 | -40.0 | -20.0 | Ant1 |
| ^ 3458.930M | 56.2 | +9.9 | +1.0 | -107.0 |  | +0.0 | -39.9 | -40.0 | +0.1 | Ant1 |


| $\begin{aligned} & 22 \text { 2997.490M } \\ & \text { Ave } \end{aligned}$ | 31.3 | +9.9 | +0.9 | -107.0 | +0.0 | -64.9 | -40.0 | -24.9 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ^ 2997.490M | 54.3 | +9.9 | +0.9 | -107.0 | +0.0 | -41.9 | -40.0 | -1.9 | Ant 1 |
| $\begin{gathered} 24 \text { 2866.680M } \\ \text { Ave } \end{gathered}$ | 30.4 | +9.9 | +0.9 | -107.0 | +0.0 | -65.8 | -40.0 | -25.8 | Ant1 |
| ^ 2866.680M | 55.9 | +9.9 | +0.9 | -107.0 | +0.0 | -40.3 | -40.0 | -0.3 | Ant1 |
| $\begin{gathered} 262893.460 \mathrm{M} \\ \text { Ave } \end{gathered}$ | 29.3 | +9.9 | +0.9 | -107.0 | +0.0 | -66.9 | -40.0 | -26.9 | Ant1 |
| ^ 2893.460M | 53.2 | +9.9 | +0.9 | -107.0 | +0.0 | -43.0 | -40.0 | -3.0 | Ant1 |
| $\begin{aligned} & 28 \quad 326.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 14.1 | +9.9 | +0.3 | -107.0 | +0.0 | -82.7 | -40.0 | -42.7 | Ant1 |
| ^ 326.000M | 53.0 | +9.9 | +0.3 | -107.0 | +0.0 | -43.8 | -40.0 | -3.8 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
EMITest 5.03.12

Date: 3/6/2020
Time: 09:23:31
Sequence\#: 12
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 3.72-37 GHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$
VBW: 3x RBW

Transmitter Settings:
Transmit Frequency: 3625 MHz
Modulation: QAM64
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.

Mercury Wireless WO\#: 103300 Sequence\#: 12 Date: 3/6/2020 47 CFR $\S 96.41$ e Spurious Emissions Test Lead: 120 V 60 Hz Ant 1



Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. Test Lead: Ant1

| \# | Freq <br> MHz | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \text { T3 } \\ & \text { dB } \end{aligned}$ | dB | $\begin{gathered} \hline \text { Dist } \\ \text { Table } \end{gathered}$ | $\begin{aligned} & \text { Corr } \\ & \text { dBm } \end{aligned}$ | Spec <br> dBm | $\begin{gathered} \text { Margin } \\ \mathrm{dB} \end{gathered}$ | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $\begin{gathered} 36638.886 \\ \mathrm{M} \end{gathered}$ | 48.3 | +10.4 | +3.3 | -107.0 |  | +0.0 | -45.0 | -40.0 | -5.0 | Ant1 |
|  | $\begin{gathered} 36793.508 \\ \mathrm{M} \end{gathered}$ | 47.8 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.4 | -40.0 | -5.4 | Ant1 |
|  | $\begin{gathered} 36782.393 \\ \text { M } \end{gathered}$ | 47.6 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.6 | -40.0 | -5.6 | Ant1 |
|  | $\begin{gathered} 36819.690 \\ \mathrm{M} \end{gathered}$ | 47.6 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.6 | -40.0 | -5.6 | Ant1 |
|  | $\begin{gathered} 36756.458 \\ \mathrm{M} \end{gathered}$ | 47.5 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.7 | -40.0 | -5.7 | Ant1 |
|  | $\begin{gathered} 36960.233 \\ \mathrm{M} \end{gathered}$ | 47.5 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.7 | -40.0 | -5.7 | Ant1 |
| 7 | 7253.530M | 49.7 | +10.0 | +1.5 | -107.0 |  | +0.0 | -45.8 | -40.0 | -5.8 | Ant1 |
| 8 | $\begin{gathered} 36757.446 \\ \mathrm{M} \end{gathered}$ | 47.4 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.8 | -40.0 | -5.8 | Ant1 |
| 9 | $\begin{gathered} 36844.884 \\ \text { M } \end{gathered}$ | 47.3 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.9 | -40.0 | -5.9 | Ant1 |
|  | $\begin{gathered} \hline 36795.978 \\ \mathrm{M} \end{gathered}$ | 47.2 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.0 | -40.0 | -6.0 | Ant1 |
| 11 | $\begin{gathered} \hline 36814.997 \\ \mathrm{M} \end{gathered}$ | 47.2 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.0 | -40.0 | -6.0 | Ant1 |
| 12 | 7246.523M | 49.4 | +10.0 | +1.5 | -107.0 |  | +0.0 | -46.1 | -40.0 | -6.1 | Ant1 |
| 13 | $\begin{gathered} 36973.818 \\ \mathrm{M} \end{gathered}$ | 46.7 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.5 | -40.0 | -6.5 | Ant1 |
| 14 | 7249.526M | 48.8 | +10.0 | +1.5 | -107.0 |  | +0.0 | -46.7 | -40.0 | -6.7 | Ant1 |
|  | $\begin{gathered} 36969.866 \\ \mathrm{M} \end{gathered}$ | 46.5 | $+10.4$ | +3.4 | -107.0 |  | +0.0 | -46.7 | -40.0 | -6.7 | Ant1 |
| 16 | $\begin{gathered} 36972.583 \\ \text { M } \end{gathered}$ | 46.5 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.7 | -40.0 | -6.7 | Ant1 |
| 17 | $\begin{gathered} 36374.622 \\ \mathrm{M} \end{gathered}$ | 46.3 | +10.5 | +3.3 | -107.0 |  | +0.0 | -46.9 | -40.0 | -6.9 | Ant1 |



Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
EMITest 5.03.12

Date: 3/6/2020
Time: 09:41:10
Sequence\#: 13
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 9kHz - 3530 MHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$

VBW: 3x RBW
Transmitter Settings:
Transmit Frequency: 3695 MHz
Modulation: QPSK
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.


[^2]Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. $\quad$ Test Lead: Ant1

| \#Freq <br>  <br>  <br> MHz | $\begin{gathered} \mathrm{Rdng} \\ \mathrm{~dB} \mu \mathrm{~V} \end{gathered}$ | $\begin{gathered} \mathrm{T} 1 \\ \mathrm{~dB} \end{gathered}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 3 \\ & \mathrm{~dB} \\ & \hline \end{aligned}$ | dB | $\begin{gathered} \hline \text { Dist } \\ \text { Table } \end{gathered}$ | Corr dBm | Spec <br> dBm | $\begin{gathered} \text { Margin } \\ \mathrm{dB} \end{gathered}$ | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1 \quad 681.000 \mathrm{M}$ | 49.3 | +9.9 | +0.5 | -107.0 |  | +0.0 | -47.3 | -40.0 | -7.3 | Ant1 |
| 2 2795.610M | 47.6 | +9.9 | +0.9 | -107.0 |  | +0.0 | -48.6 | -40.0 | -8.6 | Ant1 |
| $\begin{aligned} & 3 \text { 3299.889M } \\ & \text { Ave } \end{aligned}$ | 45.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -50.2 | -40.0 | -10.2 | Ant1 |
| ^ 3299.889M | 75.8 | +9.9 | +1.0 | -107.0 |  | +0.0 | -20.3 | -40.0 | +19.7 | Ant 1 |
| $\begin{aligned} & 5 \text { 3226.150M } \\ & \text { Ave } \end{aligned}$ | 45.0 | +9.9 | +0.9 | -107.0 |  | +0.0 | -51.2 | -40.0 | -11.2 | Ant1 |
| ^ 3226.150M | 70.4 | +9.9 | +0.9 | -107.0 |  | +0.0 | -25.8 | -40.0 | +14.2 | Ant1 |
| $\begin{aligned} & 7 \text { 3351.810M } \\ & \text { Ave } \end{aligned}$ | 43.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -52.2 | -40.0 | -12.2 | Ant1 |
| ^ 3351.810M | 70.7 | +9.9 | +1.0 | -107.0 |  | +0.0 | -25.4 | -40.0 | +14.6 | Ant1 |
| $\begin{aligned} & 9 \text { 3467.170M } \\ & \text { Ave } \end{aligned}$ | 42.3 | +9.9 | +1.0 | -107.0 |  | +0.0 | -53.8 | -40.0 | -13.8 | Ant1 |
| ^ 3467.170M | 64.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -31.7 | -40.0 | +8.3 | Ant1 |
| $\begin{aligned} & 113108.730 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 41.9 | +9.9 | +0.9 | -107.0 |  | +0.0 | -54.3 | -40.0 | -14.3 | Ant1 |
| $\wedge 3108.730 \mathrm{M}$ | 68.2 | +9.9 | +0.9 | -107.0 |  | +0.0 | -28.0 | -40.0 | +12.0 | Ant1 |
| $\begin{aligned} & 13 \text { 3501.160M } \\ & \text { Ave } \end{aligned}$ | 41.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -54.7 | -40.0 | -14.7 | Ant1 |
| ^ 3501.160M | 67.3 | +9.9 | +1.0 | -107.0 |  | +0.0 | -28.8 | -40.0 | +11.2 | Ant1 |
| $\begin{aligned} & 15 \text { 3397.130M } \\ & \text { Ave } \end{aligned}$ | 41.1 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.0 | -40.0 | -15.0 | Ant1 |
| ^ 3397.130M | 71.8 | +9.9 | +1.0 | -107.0 |  | +0.0 | -24.3 | -40.0 | +15.7 | Ant1 |
| $\begin{aligned} & 172999.550 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 35.2 | +9.9 | +0.9 | -107.0 |  | +0.0 | -61.0 | -40.0 | -21.0 | Ant1 |
| ^ 2999.550M | 60.2 | +9.9 | +0.9 | -107.0 |  | +0.0 | -36.0 | -40.0 | +4.0 | Ant1 |
| $\begin{aligned} & 19 \text { 2875.950M } \\ & \text { Ave } \end{aligned}$ | 34.7 | +9.9 | +0.9 | -107.0 |  | +0.0 | -61.5 | -40.0 | -21.5 | Ant1 |
| ^ 2875.950M | 61.8 | +9.9 | +0.9 | -107.0 |  | +0.0 | -34.4 | -40.0 | +5.6 | Ant1 |
| $\begin{aligned} & 212914.060 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 33.0 | +9.9 | +0.9 | -107.0 |  | +0.0 | -63.2 | -40.0 | -23.2 | Ant1 |
| ^ 2914.060M | 58.1 | +9.9 | +0.9 | -107.0 |  | +0.0 | -38.1 | -40.0 | +1.9 | Ant1 |
| $\begin{aligned} & 23627.500 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 18.6 | +9.9 | +0.4 | -107.0 |  | +0.0 | -78.1 | -40.0 | -38.1 | Ant1 |
| $\begin{aligned} & 24 \begin{array}{l} 627.500 \mathrm{M} \\ \text { Ave } \end{array} \end{aligned}$ | 18.5 | +9.9 | +0.4 | -107.0 |  | +0.0 | -78.2 | -40.0 | -38.2 | Ant1 |


| 627.500 M | 57.3 | +9.9 | +0.4 | -107.0 | $+0.0$ | -39.4 | -40.0 | +0.6 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 26 \\ \text { Ave } \\ \text { Av4.500M } \\ \hline \end{gathered}$ | 16.9 | +9.9 | +0.4 | -107.0 | +0.0 | -79.8 | -40.0 | -39.8 | Ant1 |
| ^ 574.500 M | 54.6 | +9.9 | +0.4 | -107.0 | +0.0 | -42.1 | -40.0 | -2.1 | Ant1 |
| $\begin{gathered} 28358.500 \mathrm{M} \\ \text { Ave } \\ \hline \end{gathered}$ | 17.0 | +9.9 | +0.3 | -107.0 | +0.0 | -79.8 | -40.0 | -39.8 | Ant1 |
| $\wedge 358.500 \mathrm{M}$ | 55.9 | +9.9 | $+0.3$ | -107.0 | $+0.0$ | -40.9 | -40.0 | -0.9 | Ant1 |
| $\begin{gathered} 30 \begin{array}{l} 307.500 \mathrm{M} \\ \text { Ave } \end{array} \\ \hline \end{gathered}$ | 16.9 | +9.9 | +0.3 | -107.0 | +0.0 | -79.9 | -40.0 | -39.9 | Ant1 |
| ^ 307.500M | 55.5 | +9.9 | +0.3 | -107.0 | +0.0 | -41.3 | -40.0 | -1.3 | Ant1 |
| $\begin{aligned} & 32 \quad 447.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 16.5 | +9.9 | +0.4 | -107.0 | +0.0 | -80.2 | -40.0 | -40.2 | Ant1 |
| ^ 447.000M | 54.6 | +9.9 | +0.4 | -107.0 | +0.0 | -42.1 | -40.0 | -2.1 | Ant1 |
| $\begin{aligned} & 34 \begin{array}{l} 513.500 \mathrm{M} \\ \text { Ave } \end{array} \\ & \hline \end{aligned}$ | 15.6 | +9.9 | +0.4 | -107.0 | +0.0 | -81.1 | -40.0 | -41.1 | Ant1 |
| ^ 513.500 M | 53.8 | +9.9 | +0.4 | -107.0 | +0.0 | -42.9 | -40.0 | -2.9 | Ant1 |
| $\begin{aligned} & 36 \quad 288.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 14.4 | +9.9 | +0.3 | -107.0 | $+0.0$ | -82.4 | -40.0 | -42.4 | Ant1 |
| $\wedge 288.000 \mathrm{M}$ | 53.9 | +9.9 | +0.3 | -107.0 | +0.0 | -42.9 | -40.0 | -2.9 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
EMITest 5.03.12

Date: 3/6/2020
Time: 10:31:28
Sequence\#: 14
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 3.72-37GHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$

VBW: 3x RBW
Transmitter Settings:
Transmit Frequency: 3695 MHz
Modulation: QPSK
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.

Mercury Wireless WO\#: 103300 Sequence\#f: 14 Date: 3/6/2020 47 CFR $\S 96.41$ e Spurious Emissions Test Lead: 120 V 60 Hz Ant 1


|  | Sweep Data |  |  |
| :---: | :---: | :---: | :---: |
| 0 | Peak Readings | $\times$ |  |
| * | Average Readings | , |  |
|  | Software Version: 5.03.12 |  |  |

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. $\quad$ Test Lead: Ant1

| \# | $\begin{aligned} & \text { Freq } \\ & \text { MHz } \\ & \hline \end{aligned}$ | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \text { T3 } \\ & \text { dB } \end{aligned}$ | dB | Dist <br> Table | $\begin{aligned} & \hline \text { Corr } \\ & \mathrm{dBm} \\ & \hline \end{aligned}$ | Spec dBm | $\begin{gathered} \text { Margin } \\ \mathrm{dB} \\ \hline \end{gathered}$ | Polar Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 4277.557M | 51.2 | +9.9 | +1.1 | -107.0 |  | +0.0 | -44.8 | -40.0 | -4.8 | Ant1 |
|  | $\begin{gathered} \hline 36525.773 \\ \mathrm{M} \end{gathered}$ | 48.2 | +10.5 | +3.3 | -107.0 |  | +0.0 | -45.0 | -40.0 | -5.0 | Ant1 |
| 3 | $\begin{gathered} 36839.944 \\ \text { M } \end{gathered}$ | 47.7 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.5 | -40.0 | -5.5 | Ant1 |
|  | $\begin{gathered} 36705.953 \\ \mathrm{M} \end{gathered}$ | 47.6 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.6 | -40.0 | -5.6 | Ant1 |
|  | $\begin{aligned} & \text { 3720.000M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 39.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -56.7 | -40.0 | -16.7 | Ant1 |
| $\wedge$ | 3720.000M | 68.6 | +9.9 | +1.0 | -107.0 |  | +0.0 | -27.5 | -40.0 | +12.5 | Ant1 |
|  | $\begin{aligned} & \hline 3779.059 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 36.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -59.7 | -40.0 | -19.7 | Ant1 |
| $\wedge$ | 3779.059M | 59.0 | +9.9 | +1.0 | -107.0 |  | +0.0 | -37.1 | -40.0 | +2.9 | Ant1 |
|  | $3726.006 \mathrm{M}$ <br> Ave | 35.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -60.2 | -40.0 | -20.2 | Ant1 |
|  | 3726.006M | 68.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -27.7 | -40.0 | +12.3 | Ant1 |
|  | $\begin{aligned} & \hline 3854.134 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 32.7 | +9.9 | +1.0 | -107.0 |  | +0.0 | -63.4 | -40.0 | -23.4 | Ant1 |
| $\wedge$ | 3854.134M | 58.8 | +9.9 | +1.0 | -107.0 |  | +0.0 | -37.3 | -40.0 | +2.7 | Ant1 |
|  | $\begin{aligned} & \hline 3958.238 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 32.4 | +9.9 | +1.1 | -107.0 |  | +0.0 | -63.6 | -40.0 | -23.6 | Ant1 |
| $\wedge$ | 3958.238M | 67.1 | +9.9 | +1.1 | -107.0 |  | +0.0 | -28.9 | -40.0 | +11.1 | Ant1 |
|  | $\begin{aligned} & \hline 3976.256 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 32.1 | +9.9 | +1.1 | -107.0 |  | +0.0 | -63.9 | -40.0 | -23.9 | Ant1 |
| $\wedge$ | 3976.256M | 65.2 | +9.9 | +1.1 | -107.0 |  | +0.0 | -30.8 | -40.0 | +9.2 | Ant1 |
|  | $\begin{aligned} & \text { 3911.191M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 31.8 | +9.9 | +1.0 | -107.0 |  | +0.0 | -64.3 | -40.0 | -24.3 | Ant1 |
|  | 3911.191M | 61.1 | +9.9 | +1.0 | -107.0 |  | +0.0 | -35.0 | -40.0 | +5.0 | Ant1 |
|  | $\begin{aligned} & \text { 3990.270M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 30.9 | +9.9 | +1.1 | -107.0 |  | +0.0 | -65.1 | -40.0 | -25.1 | Ant1 |
| $\wedge$ | 3990.270M | 65.1 | +9.9 | +1.1 | -107.0 |  | +0.0 | -30.9 | -40.0 | +9.1 | Ant1 |
|  | $\begin{aligned} & \text { 4126.406M } \\ & \text { Ave } \end{aligned}$ | 23.9 | +9.9 | +1.1 | -107.0 |  | +0.0 | -72.1 | -40.0 | -32.1 | Ant1 |
| $\wedge$ | 4126.406M | 58.0 | +9.9 | +1.1 | -107.0 |  | +0.0 | -38.0 | -40.0 | +2.0 | Ant1 |


| $\begin{aligned} & 23 \text { 4048.328M } \\ & \text { Ave } \end{aligned}$ | 23.6 | +9.9 | +1.1 | -107.0 | $+0.0$ | -72.4 | -40.0 | -32.4 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge$ ^ 4048.328 M | 56.0 | +9.9 | +1.1 | -107.0 | +0.0 | -40.0 | -40.0 | +0.0 | Ant1 |
| $\begin{gathered} 25 \text { 4064.344M } \\ \text { Ave } \end{gathered}$ | 23.0 | +9.9 | +1.1 | -107.0 | +0.0 | -73.0 | -40.0 | -33.0 | Ant1 |
| $\wedge$ 4064.344M | 57.4 | +9.9 | +1.1 | -107.0 | +0.0 | -38.6 | -40.0 | +1.4 | Ant1 |
| $\begin{aligned} & 27 \text { 4082.362M } \\ & \text { Ave } \end{aligned}$ | 22.7 | +9.9 | +1.1 | -107.0 | +0.0 | -73.3 | -40.0 | -33.3 | Ant1 |
| $\wedge 4082.362 \mathrm{M}$ | 57.2 | +9.9 | +1.1 | -107.0 | +0.0 | -38.8 | -40.0 | +1.2 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
EMITest 5.03.12

Date: 3/6/2020
Time: 10:44:03
Sequence\#: 15
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 9kHz - 3530 MHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$
VBW: 3x RBW

Transmitter Settings:
Transmit Frequency: 3695 MHz
Modulation: QAM16
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.


```
Sweep Data
O Peak Readings
* Average Readings
Software Version: 5.03.12
```

```
- Readings
Peak Readings
* Average Readings
Software Version: 5.03.12 QP Readings
- Ambient
1-47 CFR \(\S 96.41\) e Spurious Emissions
```

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. $\quad$ Test Lead: Ant1

| \# $\begin{array}{l}\text { Freq } \\ \text { MHz }\end{array}$ <br>   | $\begin{aligned} & \hline \mathrm{Rdng} \\ & \mathrm{~dB} \mu \mathrm{~V} \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \mathrm{T} 1 \\ & \mathrm{~dB} \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \text { T3 } \\ & \text { dB } \\ & \hline \end{aligned}$ | dB | Dist <br> Table | $\begin{aligned} & \hline \text { Corr } \\ & \mathrm{dBm} \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { Spec } \\ & \mathrm{dBm} \\ & \hline \end{aligned}$ | $\underset{\mathrm{dB}}{\text { Margin }}$ | Polar Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 663.500 M | 52.3 | +9.9 | +0.5 | -107.0 |  | +0.0 | -44.3 | -40.0 | -4.3 | Ant1 |
| 2288.000 M | 51.1 | +9.9 | +0.3 | -107.0 |  | +0.0 | -45.7 | -40.0 | -5.7 | Ant1 |
| $\begin{aligned} & 3 \text { 3311.817M } \\ & \text { Ave } \end{aligned}$ | 45.3 | +9.9 | +1.0 | -107.0 |  | +0.0 | -50.8 | -40.0 | -10.8 | Ant1 |
| ^ 3311.817M | 75.5 | +9.9 | +1.0 | -107.0 |  | +0.0 | -20.6 | -40.0 | +19.4 | Ant1 |
| $\begin{aligned} & 5 \text { 3178.770M } \\ & \text { Ave } \end{aligned}$ | 43.3 | +9.9 | +0.9 | -107.0 |  | +0.0 | -52.9 | -40.0 | -12.9 | Ant1 |
| ^ 3178.770M | 71.6 | +9.9 | +0.9 | -107.0 |  | +0.0 | -24.6 | -40.0 | +15.4 | Ant1 |
| $\begin{aligned} & 7 \text { 3488.800M } \\ & \text { Ave } \end{aligned}$ | 41.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -54.7 | -40.0 | -14.7 | Ant1 |
| ^ 3488.800M | 64.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -31.7 | -40.0 | +8.3 | Ant1 |
| $\begin{aligned} & 9 \text { 3450.690M } \\ & \text { Ave } \end{aligned}$ | 40.7 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.4 | -40.0 | -15.4 | Ant1 |
| ^ 3450.690M | 62.0 | +9.9 | +1.0 | -107.0 |  | +0.0 | -34.1 | -40.0 | +5.9 | Ant1 |
| $\begin{aligned} & 113402.280 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 40.3 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.8 | -40.0 | -15.8 | Ant1 |
| ^ 3402.280M | 66.6 | +9.9 | +1.0 | -107.0 |  | +0.0 | -29.5 | -40.0 | +10.5 | Ant1 |
| $\begin{aligned} & 133042.810 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 38.4 | +9.9 | +0.9 | -107.0 |  | +0.0 | -57.8 | -40.0 | -17.8 | Ant1 |
| ^ 3042.810M | 63.6 | +9.9 | +0.9 | -107.0 |  | +0.0 | -32.6 | -40.0 | +7.4 | Ant1 |
| $\begin{aligned} & 15 \text { 2876.980M } \\ & \text { Ave } \end{aligned}$ | 34.0 | +9.9 | +0.9 | -107.0 |  | +0.0 | -62.2 | -40.0 | -22.2 | Ant1 |
| ^ 2876.980M | 61.4 | +9.9 | +0.9 | -107.0 |  | +0.0 | -34.8 | -40.0 | +5.2 | Ant1 |
| $\begin{aligned} & 172915.090 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 32.5 | +9.9 | +0.9 | -107.0 |  | $+0.0$ | -63.7 | -40.0 | -23.7 | Ant1 |
| ^ 2915.090M | 57.6 | +9.9 | +0.9 | -107.0 |  | +0.0 | -38.6 | -40.0 | +1.4 | Ant1 |
| $\begin{aligned} & \hline 19 \text { 2824.450M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 28.7 | +9.9 | +0.9 | -107.0 |  | +0.0 | -67.5 | -40.0 | -27.5 | Ant1 |
| ^ 2824.450M | 53.5 | +9.9 | +0.9 | -107.0 |  | +0.0 | -42.7 | -40.0 | -2.7 | Ant1 |
| $\begin{aligned} & 21 \begin{array}{l} 614.000 \mathrm{M} \\ \text { Ave } \end{array} \end{aligned}$ | 18.2 | +9.9 | +0.4 | -107.0 |  | $+0.0$ | -78.5 | -40.0 | -38.5 | Ant1 |
| ^ 614.000M | 58.0 | +9.9 | +0.4 | -107.0 |  | +0.0 | -38.7 | -40.0 | +1.3 | Ant1 |
| $\begin{gathered} 23 \begin{array}{c} 323.000 \mathrm{M} \\ \text { Ave } \end{array} \end{gathered}$ | 17.0 | +9.9 | +0.3 | -107.0 |  | $+0.0$ | -79.8 | -40.0 | -39.8 | Ant1 |
| ^ 323.000M | 55.6 | +9.9 | +0.3 | -107.0 |  | +0.0 | -41.2 | -40.0 | -1.2 | Ant1 |


|  | $390.000 \mathrm{M}$ <br> Ave | 16.8 | +9.9 | +0.3 | -107.0 | +0.0 | -80.0 | -40.0 | -40.0 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge$ | 390.000M | 55.1 | +9.9 | +0.3 | -107.0 | +0.0 | -41.7 | -40.0 | -1.7 | Ant1 |
|  | $\begin{aligned} & \text { 576.500M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 16.7 | +9.9 | +0.4 | -107.0 | +0.0 | -80.0 | -40.0 | -40.0 | Ant1 |
| $\wedge$ | 576.500M | 54.2 | +9.9 | +0.4 | -107.0 | +0.0 | -42.5 | -40.0 | -2.5 | Ant1 |
|  | $\begin{aligned} & \text { 462.000M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 15.4 | $+9.9$ | +0.4 | -107.0 | +0.0 | -81.3 | -40.0 | -41.3 | Ant1 |
| $\wedge$ | 462.000M | 55.4 | +9.9 | +0.4 | -107.0 | +0.0 | -41.3 | -40.0 | -1.3 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
Software: EMITest 5.03.12

Date: 3/6/2020
Time: 10:59:01
Sequence\#: 16
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 3.72-37 GHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$
VBW: 3x RBW

Transmitter Settings:
Transmit Frequency: 3695 MHz
Modulation: QAM16
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.

Mercury Wireless WO\#: 103300 Sequence\#: 16 Date: $3 / 6 / 2020$ 47 CFR $\S 96.41$ e Spurious Emissions Test Lead: 120 V 60 Hz Ant 1


|  | Sweep Data |
| :--- | :--- |
| O | Peak Readings |
| * | Readings |
|  | Software Readings Version: 5.03 .12 |$\quad$ QP Readings

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. Test Lead: Ant1

| \#Freq <br>  <br>  <br> MHz | $\begin{gathered} \mathrm{Rdng} \\ \mathrm{~dB} \mu \mathrm{~V} \end{gathered}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{T} 3 \\ & \mathrm{~dB} \\ & \hline \end{aligned}$ | dB | $\begin{gathered} \hline \text { Dist } \\ \text { Table } \end{gathered}$ | Corr dBm | Spec <br> dBm | $\begin{gathered} \text { Margin } \\ \mathrm{dB} \\ \hline \end{gathered}$ | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14174.454 M | 51.1 | +9.9 | +1.1 | -107.0 |  | +0.0 | -44.9 | -40.0 | -4.9 | Ant1 |
| 24252.532 M | 51.1 | +9.9 | +1.1 | -107.0 |  | +0.0 | -44.9 | -40.0 | -4.9 | Ant1 |
| 34163.443 M | 50.9 | +9.9 | +1.1 | -107.0 |  | +0.0 | -45.1 | -40.0 | -5.1 | Ant1 |
| 4 4225.505M | 50.8 | +9.9 | +1.1 | -107.0 |  | +0.0 | -45.2 | -40.0 | -5.2 | Ant 1 |
| 54213.493 M | 50.7 | +9.9 | +1.1 | -107.0 |  | +0.0 | -45.3 | -40.0 | -5.3 | Ant1 |
| $\begin{array}{cc} 6 & 36485.733 \\ M \end{array}$ | 47.6 | +10.5 | +3.3 | -107.0 |  | +0.0 | -45.6 | -40.0 | -5.6 | Ant1 |
| $\begin{aligned} & 7 \text { 3720.000M } \\ & \text { Ave } \end{aligned}$ | 39.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -56.7 | -40.0 | -16.7 | Ant1 |
| ^ 3720.000M | 66.7 | +9.9 | +1.0 | -107.0 |  | +0.0 | -29.4 | -40.0 | +10.6 | Ant 1 |
| $\begin{aligned} & 9 \text { 3776.056M } \\ & \text { Ave } \end{aligned}$ | 36.6 | +9.9 | +1.0 | -107.0 |  | +0.0 | -59.5 | -40.0 | -19.5 | Ant1 |
| $\wedge 3776.056 \mathrm{M}$ | 57.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -38.2 | -40.0 | +1.8 | Ant1 |
| $\begin{aligned} & 113799.079 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 35.5 | +9.9 | +1.0 | -107.0 |  | +0.0 | -60.6 | -40.0 | -20.6 | Ant1 |
| ^ 3799.079M | 57.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -38.2 | -40.0 | +1.8 | Ant1 |
| $\begin{aligned} & 13 \text { 3808.088M } \\ & \text { Ave } \end{aligned}$ | 34.6 | +9.9 | +1.0 | -107.0 |  | +0.0 | -61.5 | -40.0 | -21.5 | Ant1 |
| $\wedge 3808.088 \mathrm{M}$ | 58.8 | +9.9 | +1.0 | -107.0 |  | +0.0 | -37.3 | -40.0 | +2.7 | Ant1 |
| $\begin{aligned} & 153938.218 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 32.1 | +9.9 | +1.1 | -107.0 |  | +0.0 | -63.9 | -40.0 | -23.9 | Ant1 |
| $\wedge 3938.218 \mathrm{M}$ | 61.3 | +9.9 | +1.1 | -107.0 |  | +0.0 | -34.7 | -40.0 | +5.3 | Ant1 |
| $\begin{aligned} & 17 \text { 3978.258M } \\ & \text { Ave } \end{aligned}$ | 32.0 | +9.9 | +1.1 | -107.0 |  | +0.0 | -64.0 | -40.0 | -24.0 | Ant1 |
| ^ 3978.258M | 64.3 | +9.9 | +1.1 | -107.0 |  | +0.0 | -31.7 | -40.0 | +8.3 | Ant 1 |
| $\begin{aligned} & 193933.213 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 31.9 | +9.9 | +1.1 | -107.0 |  | +0.0 | -64.1 | -40.0 | -24.1 | Ant1 |
| $\wedge 3933.213 \mathrm{M}$ | 60.9 | +9.9 | +1.1 | -107.0 |  | +0.0 | -35.1 | -40.0 | +4.9 | Ant1 |
| $\begin{aligned} & 21 \text { 4001.281M } \\ & \text { Ave } \end{aligned}$ | 29.3 | +9.9 | +1.1 | -107.0 |  | +0.0 | -66.7 | -40.0 | -26.7 | Ant1 |
| $\wedge 4001.281 \mathrm{M}$ | 62.2 | +9.9 | +1.1 | -107.0 |  | +0.0 | -33.8 | -40.0 | +6.2 | Ant1 |
| $\begin{aligned} & 23 \text { 4015.295M } \\ & \text { Ave } \end{aligned}$ | 26.9 | +9.9 | +1.1 | -107.0 |  | +0.0 | -69.1 | -40.0 | -29.1 | Ant1 |
| $\wedge 4015.295 \mathrm{M}$ | 58.7 | +9.9 | +1.1 | -107.0 |  | +0.0 | -37.3 | -40.0 | +2.7 | Ant1 |


| $\begin{aligned} & 25 \text { 4196.476M } \\ & \text { Ave } \end{aligned}$ | 24.7 | +9.9 | +1.1 | -107.0 | $+0.0$ | -71.3 | -40.0 | -31.3 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge$ 4196.476M | 54.1 | +9.9 | +1.1 | -107.0 | +0.0 | -41.9 | -40.0 | -1.9 | Ant1 |
| $\begin{aligned} & 27 \text { 4149.429M } \\ & \text { Ave } \end{aligned}$ | 24.4 | +9.9 | +1.1 | -107.0 | +0.0 | -71.6 | -40.0 | -31.6 | Ant1 |
| $\wedge ~ 4149.429 \mathrm{M}$ | 55.9 | +9.9 | +1.1 | -107.0 | +0.0 | -40.1 | -40.0 | -0.1 | Ant1 |
| $\begin{aligned} & 29 \text { 4140.420M } \\ & \text { Ave } \end{aligned}$ | 24.3 | +9.9 | +1.1 | -107.0 | +0.0 | -71.7 | -40.0 | -31.7 | Ant1 |
| $\wedge$ 4140.420M | 56.4 | +9.9 | +1.1 | -107.0 | +0.0 | -39.6 | -40.0 | +0.4 | Ant1 |
| $\begin{aligned} & 31 \text { 4056.336M } \\ & \text { Ave } \end{aligned}$ | 23.4 | +9.9 | +1.1 | -107.0 | $+0.0$ | -72.6 | -40.0 | -32.6 | Ant1 |
| $\wedge$ ^ 4056.336 M | 54.9 | +9.9 | +1.1 | -107.0 | +0.0 | -41.1 | -40.0 | -1.1 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
Software: EMITest 5.03.12

Date: 3/6/2020
Time: 11:10:57
Sequence\#: 17
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 9kHz - 3530 MHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$

VBW: 3x RBW
Transmitter Settings:
Transmit Frequency: 3695 MHz
Modulation: QAM64
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.


[^3]Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. $\quad$ Test Lead: Ant1

| \#Freq <br>  <br>  <br> MHz | $\begin{aligned} & \text { Rdng } \\ & \mathrm{dB} \mu \mathrm{~V} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \text { T3 } \\ & \text { dB } \end{aligned}$ | dB | Dist Table | Corr dBm | Spec <br> dBm | $\begin{gathered} \text { Margin } \\ \mathrm{dB} \\ \hline \end{gathered}$ | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1 \quad 563.500 \mathrm{M}$ | 52.4 | +9.9 | +0.4 | -107.0 |  | +0.0 | -44.3 | -40.0 | -4.3 | Ant1 |
| $2 \quad 667.000 \mathrm{M}$ | 51.6 | +9.9 | +0.5 | -107.0 |  | +0.0 | -45.0 | -40.0 | -5.0 | Ant1 |
| 3 2794.580M | 49.6 | +9.9 | +0.9 | -107.0 |  | +0.0 | -46.6 | -40.0 | -6.6 | Ant1 |
| $\begin{aligned} & 4 \text { 3260.129M } \\ & \text { Ave } \end{aligned}$ | 45.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -50.7 | -40.0 | -10.7 | Ant1 |
| ^ 3260.129M | 75.0 | +9.9 | +1.0 | -107.0 |  | +0.0 | -21.1 | -40.0 | +18.9 | Ant1 |
| $\begin{aligned} & 6 \text { 3334.300M } \\ & \text { Ave } \end{aligned}$ | 44.5 | +9.9 | +1.0 | -107.0 |  | +0.0 | -51.6 | -40.0 | -11.6 | Ant1 |
| ^ 3334.300M | 70.2 | +9.9 | +1.0 | -107.0 |  | +0.0 | -25.9 | -40.0 | +14.1 | Ant1 |
| $\begin{aligned} & 8 \text { 3491.890M } \\ & \text { Ave } \end{aligned}$ | 42.5 | +9.9 | +1.0 | -107.0 |  | +0.0 | -53.6 | -40.0 | -13.6 | Ant1 |
| ^ 3491.890M | 64.7 | +9.9 | +1.0 | -107.0 |  | +0.0 | -31.4 | -40.0 | +8.6 | Ant1 |
| $\begin{aligned} & 103148.900 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 42.4 | +9.9 | +0.9 | -107.0 |  | +0.0 | -53.8 | -40.0 | -13.8 | Ant1 |
| ^ 3148.900M | 67.9 | +9.9 | +0.9 | -107.0 |  | +0.0 | -28.3 | -40.0 | +11.7 | Ant1 |
| $\begin{aligned} & 12 \text { 3396.100M } \\ & \text { Ave } \end{aligned}$ | 40.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.2 | -40.0 | -15.2 | Ant1 |
| ^ 3396.100M | 67.7 | +9.9 | +1.0 | -107.0 |  | +0.0 | -28.4 | -40.0 | +11.6 | Ant1 |
| $\begin{aligned} & 143448.630 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 40.7 | +9.9 | +1.0 | -107.0 |  | +0.0 | -55.4 | -40.0 | -15.4 | Ant1 |
| ^ 3448.630M | 63.6 | +9.9 | +1.0 | -107.0 |  | +0.0 | -32.5 | -40.0 | +7.5 | Ant1 |
| $\begin{aligned} & 163002.640 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 34.9 | +9.9 | +0.9 | -107.0 |  | +0.0 | -61.3 | -40.0 | -21.3 | Ant1 |
| ^ 3002.640M | 59.9 | +9.9 | +0.9 | -107.0 |  | +0.0 | -36.3 | -40.0 | +3.7 | Ant1 |
| $\begin{aligned} & 18 \text { 2868.740M } \\ & \text { Ave } \end{aligned}$ | 34.0 | +9.9 | +0.9 | -107.0 |  | +0.0 | -62.2 | -40.0 | -22.2 | Ant1 |
| ^ 2868.740M | 60.2 | +9.9 | +0.9 | -107.0 |  | +0.0 | -36.0 | -40.0 | +4.0 | Ant1 |
| $\begin{aligned} & 202912.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 33.0 | +9.9 | +0.9 | -107.0 |  | +0.0 | -63.2 | -40.0 | -23.2 | Ant1 |
| ^ 2912.000M | 57.6 | +9.9 | +0.9 | -107.0 |  | +0.0 | -38.6 | -40.0 | +1.4 | Ant1 |
| $\begin{aligned} & 22 \text { 629.500M } \\ & \text { Ave } \end{aligned}$ | 18.3 | +9.9 | +0.4 | -107.0 |  | +0.0 | -78.4 | -40.0 | -38.4 | Ant1 |
| $\wedge \quad 629.500 \mathrm{M}$ | 58.3 | +9.9 | +0.4 | -107.0 |  | +0.0 | -38.4 | -40.0 | +1.6 | Ant1 |


| $\begin{aligned} & 24 \begin{array}{l} 601.500 \mathrm{M} \\ \text { Ave } \end{array} \\ & \hline \end{aligned}$ | 17.7 | +9.9 | +0.4 | -107.0 | +0.0 | -79.0 | -40.0 | -39.0 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ^ 601.500M | 55.0 | +9.9 | +0.4 | -107.0 | +0.0 | -41.7 | -40.0 | -1.7 | Ant1 |
| $\begin{gathered} 26318.000 \mathrm{M} \\ \text { Ave } \end{gathered}$ | 16.8 | +9.9 | +0.3 | -107.0 | +0.0 | -80.0 | -40.0 | -40.0 | Ant1 |
| ^ 318.000M | 54.2 | +9.9 | +0.3 | -107.0 | +0.0 | -42.6 | -40.0 | -2.6 | Ant1 |
| $\begin{gathered} 28392.500 \mathrm{M} \\ \text { Ave } \\ \hline \end{gathered}$ | 16.8 | +9.9 | +0.3 | -107.0 | +0.0 | -80.0 | -40.0 | -40.0 | Ant1 |
| ^ 392.500M | 55.2 | +9.9 | +0.3 | -107.0 | +0.0 | -41.6 | -40.0 | -1.6 | Ant1 |
|  | 16.0 | +9.9 | +0.4 | -107.0 | +0.0 | -80.7 | -40.0 | -40.7 | Ant1 |
| $\wedge$ 453.000M | 56.0 | +9.9 | +0.4 | -107.0 | +0.0 | -40.7 | -40.0 | -0.7 | Ant1 |
| $\begin{aligned} & 32 \begin{array}{l} \text { 500.000M } \\ \text { Ave } \end{array} \\ & \hline \end{aligned}$ | 15.8 | +9.9 | +0.4 | -107.0 | +0.0 | -80.9 | -40.0 | -40.9 | Ant1 |
| $\wedge 500.000 \mathrm{M}$ | 53.5 | +9.9 | +0.4 | -107.0 | +0.0 | -43.2 | -40.0 | -3.2 | Ant1 |
| $\begin{aligned} & 34 \begin{array}{l} \text { 3ve } \\ \text { Aven } \\ \hline \end{array}{ }^{294.000 \mathrm{M}} \\ & \hline \end{aligned}$ | 15.3 | +9.9 | +0.3 | -107.0 | +0.0 | -81.5 | -40.0 | -41.5 | Ant1 |
| ^ 294.000M | 53.5 | +9.9 | +0.3 | -107.0 | +0.0 | -43.3 | -40.0 | -3.3 | Ant1 |

Test Location: CKC Laboratories Inc. • 5046 Sierra Pines Drive • Mariposa, CA 95338 • 209-966-5240
Customer: Mercury Wireless
Specification: 47 CFR §96.41e Spurious Emissions
Work Order \#: 103300
Test Type: $\quad$ Conducted Emissions
Tested By: Benny Lovan
EMITest 5.03.12

Date: 3/6/2020
Time: 11:33:34
Sequence\#: 18
120 V 60 Hz

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

Conducted Spurious Emissions 3.72-37 GHz
Temperature: $23^{\circ} \mathrm{C}$
Humidity: 28\%
Atmospheric Pressure: 102.5 kPa

Transmit Frequency Range: 3550-3700
RBW:
200Hz (9k - 150k),
9 kHz (150k-30M),
$1 \mathrm{MHz}(30 \mathrm{MHz}-37 \mathrm{GHz})$
VBW: 3x RBW

Transmitter Settings:
Transmit Frequency: 3695 MHz
Modulation: QAM64
Channel Bandwidth: 10MHz
Output Power Software Setting: 33

The EUT is a CBSD and is located on a table, directly connected to a spectrum analyzer through 10 dB of attenuation. The unit was programmed to output the transmitter settings specified above in a continuous transmit mode.

Antenna 1 through 6 are multiplexed from one radio. All 6 channels will have the same output simultaneously in normal operation. Preliminary investigatory measurements showed that all 6 ports were identical and therefore spurious emissions are only being performed on Antenna Port 1.

Mercury Wireless WO\#: 103300 Sequence\#f: 18 Date: 3/6/2020 47 CFR $\S 96.41$ e Spurious Emissions Test Lead: 120 V 60 Hz Ant 1


|  | Sweep Data |
| :--- | :--- |
|  | Peak Readings |
| * | Readings |
| Average Readings | QP Readings |
|  | Software Version: 5.03 .12 |$\quad$| Ambient |
| :--- |

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :---: | :--- | :--- | :--- | :--- | :--- |
|  | AN02668 | Spectrum Analyzer | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |
| T1 | ANP06239 | Attenuator | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |
| T2 | AN03356 | Cable | $32026-2-$ | $3 / 14 / 2019$ | $3 / 14 / 2021$ |
|  |  |  | $29094 K-48$ TC |  |  |
| T3 | ANdBuV | Unit Conversion |  | $8 / 24 / 2018$ | $8 / 24 / 2022$ |

Measurement Data: $\quad$ Reading listed by margin. $\quad$ Test Lead: Ant1

| \# | $\begin{aligned} & \text { Freq } \\ & \text { MHz } \end{aligned}$ | $\begin{gathered} \mathrm{Rdng} \\ \mathrm{~dB} \mu \mathrm{~V} \end{gathered}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \text { T3 } \\ & \text { dB } \end{aligned}$ | dB | Dist <br> Table | $\begin{aligned} & \text { Corr } \\ & \text { dBm } \end{aligned}$ | $\begin{aligned} & \hline \text { Spec } \\ & \mathrm{dBm} \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Margin } \\ \mathrm{dB} \end{gathered}$ | $\begin{gathered} \text { Polar } \\ \text { Ant } \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 4167.447M | 51.8 | +9.9 | +1.1 | -107.0 |  | +0.0 | -44.2 | -40.0 | -4.2 | Ant1 |
| 2 | $\begin{gathered} 36794.249 \\ \mathrm{M} \end{gathered}$ | 48.8 | +10.4 | +3.4 | -107.0 |  | +0.0 | -44.4 | -40.0 | -4.4 | Ant1 |
| 3 | 4217.497M | 50.9 | +9.9 | +1.1 | -107.0 |  | +0.0 | -45.1 | -40.0 | -5.1 | Ant1 |
| 4 | 4174.454M | 50.7 | +9.9 | +1.1 | -107.0 |  | +0.0 | -45.3 | -40.0 | -5.3 | Ant1 |
|  | $\begin{gathered} 36761.151 \\ \mathrm{M} \end{gathered}$ | 47.9 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.3 | -40.0 | -5.3 | Ant1 |
|  | $\begin{gathered} 36793.014 \\ \mathrm{M} \end{gathered}$ | 47.9 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.3 | -40.0 | -5.3 | Ant1 |
|  | $\begin{gathered} 36979.005 \\ \mathrm{M} \end{gathered}$ | 47.7 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.5 | -40.0 | -5.5 | Ant1 |
|  | $\begin{gathered} 36764.856 \\ \mathrm{M} \end{gathered}$ | 47.6 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.6 | -40.0 | -5.6 | Ant1 |
|  | $\begin{gathered} 36642.890 \\ \mathrm{M} \end{gathered}$ | 47.6 | +10.4 | +3.3 | -107.0 |  | +0.0 | -45.7 | -40.0 | -5.7 | Ant1 |
| 10 | $\begin{gathered} \hline 36846.366 \\ \mathrm{M} \end{gathered}$ | 47.5 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.7 | -40.0 | -5.7 | Ant1 |
| 11 | $\begin{gathered} 36877.735 \\ \mathrm{M} \end{gathered}$ | 47.4 | +10.4 | +3.4 | -107.0 |  | +0.0 | -45.8 | -40.0 | -5.8 | Ant1 |
| 12 | $\begin{gathered} 36437.685 \\ \mathrm{M} \end{gathered}$ | 47.3 | +10.5 | +3.3 | -107.0 |  | +0.0 | -45.9 | -40.0 | -5.9 | Ant1 |
| 13 | $\begin{gathered} 36782.393 \\ \mathrm{M} \end{gathered}$ | 47.2 | +10.4 | +3.4 | -107.0 |  | +0.0 | -46.0 | -40.0 | -6.0 | Ant1 |
| 14 | $\begin{gathered} \hline 36931.334 \\ \mathrm{M} \end{gathered}$ | 47.2 |  | +3.4 | -107.0 |  | +0.0 | -46.0 | -40.0 | -6.0 | Ant1 |
|  | $\begin{aligned} & \text { 3722.002M } \\ & \text { Ave } \end{aligned}$ | 38.8 | +9.9 | +1.0 | -107.0 |  | +0.0 | -57.3 | -40.0 | -17.3 | Ant1 |
| $\wedge$ | 3722.002M | 66.4 | +9.9 | +1.0 | -107.0 |  | +0.0 | -29.7 | -40.0 | +10.3 | Ant1 |
|  | $\begin{aligned} & 3751.031 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 35.9 | +9.9 | +1.0 | -107.0 |  | +0.0 | -60.2 | -40.0 | -20.2 | Ant1 |
| $\wedge$ | 3751.031M | 60.7 | +9.9 | +1.0 | -107.0 |  | +0.0 | -35.4 | -40.0 | +4.6 | Ant1 |


| $\begin{aligned} & 193849.129 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 32.7 | +9.9 | +1.0 | -107.0 | +0.0 | -63.4 | -40.0 | -23.4 | Ant1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ^ 3849.129M | 58.4 | +9.9 | +1.0 | -107.0 | +0.0 | -37.7 | -40.0 | +2.3 | Ant1 |
| $\begin{aligned} & 213920.200 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 32.2 | +9.9 | +1.0 | -107.0 | +0.0 | -63.9 | -40.0 | -23.9 | Ant1 |
| ^ 3920.200M | 61.0 | +9.9 | +1.0 | -107.0 | +0.0 | -35.1 | -40.0 | +4.9 | Ant1 |
| $\begin{aligned} & 23 \text { 3995.275M } \\ & \text { Ave } \end{aligned}$ | 30.1 | $+9.9$ | +1.1 | -107.0 | +0.0 | -65.9 | -40.0 | -25.9 | Ant1 |
| ^ 3995.275M | 64.1 | +9.9 | +1.1 | -107.0 | +0.0 | -31.9 | -40.0 | +8.1 | Ant1 |
| $\begin{aligned} & 254151.431 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 24.5 | +9.9 | +1.1 | -107.0 | +0.0 | -71.5 | -40.0 | -31.5 | Ant1 |
| $\wedge$ ^151.431M | 54.8 | +9.9 | +1.1 | -107.0 | +0.0 | -41.2 | -40.0 | -1.2 | Ant1 |
| $\begin{aligned} & 27 \text { 4144.424M } \\ & \text { Ave } \end{aligned}$ | 24.4 | +9.9 | +1.1 | -107.0 | +0.0 | -71.6 | -40.0 | -31.6 | Ant1 |
| ^ 4144.424M | 55.4 | +9.9 | +1.1 | -107.0 | +0.0 | -40.6 | -40.0 | -0.6 | Ant1 |
| $\begin{aligned} & 29 \text { 4131.411M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 24.0 | +9.9 | +1.1 | -107.0 | +0.0 | -72.0 | -40.0 | -32.0 | Ant1 |
| ^ 4131.411M | 54.4 | +9.9 | +1.1 | -107.0 | +0.0 | -41.6 | -40.0 | -1.6 | Ant1 |
| $\begin{aligned} & \hline 314126.406 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 23.8 | +9.9 | +1.1 | -107.0 | +0.0 | -72.2 | -40.0 | -32.2 | Ant1 |
| ^ 4126.406M | 55.1 | +9.9 | +1.1 | -107.0 | +0.0 | -40.9 | -40.0 | -0.9 | Ant1 |
| $\begin{aligned} & \hline 33 \text { 4062.342M } \\ & \text { Ave } \end{aligned}$ | 23.0 | +9.9 | +1.1 | -107.0 | +0.0 | -73.0 | -40.0 | -33.0 | Ant1 |
| ^ 4062.342M | 55.3 | +9.9 | +1.1 | -107.0 | +0.0 | -40.7 | -40.0 | -0.7 | Ant1 |
|  | 23.0 | +9.9 | +1.1 | -107.0 | +0.0 | -73.0 | -40.0 | -33.0 | Ant1 |
| ^ 4094.374M | 54.8 | +9.9 | +1.1 | -107.0 | +0.0 | -41.2 | -40.0 | -1.2 | Ant1 |

Test Setup Photo(s)


LABORATORIES, INC.

### 96.41g Peak to Average Power Ratio (PAPR)

| Test Setup/Conditions |  |  |  |
| :--- | :--- | :--- | :--- |
| Test Location: | Mariposa Lab Bench | Test Engineer: | Benny Lovan |
| Test Method: | ANSI C63.26 (2015), KDB 940660 | Test Dates): | $4 / 23 / 2020$ |
| Configuration: | 2 | The EUT is connected directly to the spectrum analyzer through 10.9dB of loss from the <br> attenuator/cable chain used for measurement. <br> Test Setup:A CPE was brought in for communication to the base station which would simulate real <br> world data being transmitted from the base station. The analyzer was connected directly <br> and this measurement was made using a CCDF function. |  |
| Declaration: | Software output power setting was varied dependent upon channel bandwidth setting. <br> See tables below for software setting. |  |  |


| Environmental Conditions |  |  |  |
| :---: | :---: | :---: | :---: |
| Temperature (으) | 21.1 | Relative Humidity (\%): | 47 |


| Test Equipment |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Asset\# | Description | Manufacturer | Model | Cal Date | Cal Due |  |
| 02668 | Spectrum Analyzer | Agilent | E4446A | $12 / 17 / 2019$ | $12 / 17 / 2020$ |  |
| 03356 | Cable | AstroLab | $32026-2-29094$ K-48TC | $3 / 14 / 2019$ | $3 / 14 / 2021$ |  |
| P06239 | Attenuator | Weinschel | $54 A-10$ | $12 / 18 / 2018$ | $12 / 18 / 2020$ |  |


| Test Data Summary |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Frequency (MHz) | Antenna Port | Modulation | Measured Peak to Average Ratio (dB) @ 0.1\% Probability | Limit <br> (dB) | Results |
| 3.5 MHz Channel Spacing - (Software Output Setting 31) |  |  |  |  |  |
| 3552.5 | 1 | QPSK | 10.44 | 13 | Pass |
| 3625 | 1 | QPSK | 9.94 | 13 | Pass |
| 3697.5 | 1 | QPSK | 9.90 | 13 | Pass |
| 3552.5 | 1 | QAM16 | 10.10 | 13 | Pass |
| 3625 | 1 | QAM16 | 9.99 | 13 | Pass |
| 3697.5 | 1 | QAM16 | 10.28 | 13 | Pass |
| 3552.5 | 1 | QAM64 | 9.97 | 13 | Pass |
| 3625 | 1 | QAM64 | 9.63 | 13 | Pass |
| 3697.5 | 1 | QAM64 | 10.07 | 13 | Pass |
| 5 MHz Channel Spacing - (Software Output Setting 32) |  |  |  |  |  |
| 3552.5 | 1 | QPSK | 10.57 | 13 | Pass |
| 3625 | 1 | QPSK | 9.54 | 13 | Pass |
| 3697.5 | 1 | QPSK | 10.38 | 13 | Pass |
| 3552.5 | 1 | QAM16 | 10.33 | 13 | Pass |
| 3625 | 1 | QAM16 | 9.99 | 13 | Pass |
| 3697.5 | 1 | QAM16 | 10.38 | 13 | Pass |
| 3552.5 | 1 | QAM64 | 10.45 | 13 | Pass |
| 3625 | 1 | QAM64 | 9.95 | 13 | Pass |
| 3697.5 | 1 | QAM64 | 10.01 | 13 | Pass |
| 7 MHz Channel Spacing - (Software Output Setting 32) |  |  |  |  |  |
| 3553.5 | 1 | QPSK | 11.39 | 13 | Pass |
| 3625 | 1 | QPSK | 10.70 | 13 | Pass |
| 3696.5 | 1 | QPSK | 11.05 | 13 | Pass |
| 3553.5 | 1 | QAM16 | 11.17 | 13 | Pass |
| 3625 | 1 | QAM16 | 10.40 | 13 | Pass |
| 3696.5 | 1 | QAM16 | 11.08 | 13 | Pass |
| 3553.5 | 1 | QAM64 | 10.88 | 13 | Pass |
| 3625 | 1 | QAM64 | 11.57 | 13 | Pass |
| 3696.5 | 1 | QAM64 | 10.81 | 13 | Pass |
| 10 MHz Channel Spacing - (Software Output Setting 33) |  |  |  |  |  |
| 3555 | 1 | QPSK | 11.05 | 13 | Pass |
| 3625 | 1 | QPSK | 11.49 | 13 | Pass |
| 3695 | 1 | QPSK | 11.15 | 13 | Pass |
| 3555 | 1 | QAM16 | 10.99 | 13 | Pass |
| 3625 | 1 | QAM16 | 11.51 | 13 | Pass |
| 3695 | 1 | QAM16 | 10.76 | 13 | Pass |
| 3555 | 1 | QAM64 | 10.85 | 13 | Pass |
| 3625 | 1 | QAM64 | 11.36 | 13 | Pass |
| 3695 | 1 | QAM64 | 11.72 | 13 | Pass |

## Plot(s)

Channel Bandwidth 3.5MHz
QAM16


Low Channel


Middle Channel


High Channel

QAM64


Low Channel


Middle Channel


High Channel

## QPSK



Low Channel


Middle Channel


High Channel

## Channel Bandwidth 5MHz

QAM16


Low Channel


Middle Channel


High Channel

QAM64


Low Channel


Middle Channel


High Channel

QPSK


Low Channel


Middle Channel


High Channel

## Channel Bandwidth 7MHz

QAM16


Low Channel


Middle Channel


High Channel


[^0]:    Sweep Data
    O Peak Readings

    * Average Readings

    Software Version: 5.03.12

[^1]:    Sweep Data
    O Peak Readings

    * Average Readings

    Software Version: 5.03.12

[^2]:    Sweep Data
    O Peak Readings

    * Average Readings

    Software Version: 5.03.12

[^3]:    Sweep Data
    O Peak Readings

    * Average Readings

    Software Version: 5.03.12

    - Readings QP Readings
    - Ambient
    1-47 CFR $\$ 96.41$ e Spurious Emissions

