Itron, Inc. WO\#: 104621 Sequence\#: 16 Date: 1/7/2021
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Horiz


| - Readings |
| :--- |
| $\times$ QP Readings |
| - Ambient |
|  |

O Peak Readings<br>* Average Readings<br>Software Version: 5.03:19

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | AN00314 | Loop Antenna | 6502 | $4 / 13 / 2020$ | $4 / 13 / 2022$ |
|  | ANP01911 | Cable-Amplitude <br> $+15 C ~ t o ~+45 C ~(d B) ~$ | RG214/U | $1 / 2 / 2020$ | $1 / 2 / 2022$ |
|  |  |  |  |  |  |
|  | ANP05281 | Attenuator | 1B | $4 / 7 / 2020$ | $4 / 7 / 2022$ |
|  | AN01993 | Biconilog Antenna | CBL6111C | $6 / 11 / 2019$ | $6 / 11 / 2021$ |
|  | AN03643 | Spectrum Analyzer | E4440A | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T1 | AN00786 | Preamp | $83017 A$ | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T2 | AN00849 | Horn Antenna | 3115 | $3 / 17 / 2020$ | $3 / 17 / 2022$ |
| T3 | ANP06360 | Cable | L1-PNMNM-48 | $8 / 8 / 2019$ | $8 / 8 / 2021$ |
| T4 | ANP07246 | Cable | $32022-29094 K-$ | $5 / 29 / 2020$ | $5 / 29 / 2022$ |
| T5 | AN03169 | High Pass Filter | HM1155-11SS | $5 / 8 / 2019$ | $5 / 8 / 2021$ |
| T6 | ANDCCF | Duty Cycle |  | $1 / 1 / 2021$ | $1 / 1 / 2025$ |
|  |  | Correction Factor |  |  |  |

Measurement Data: $\quad$ Reading listed by margin.
Test Distance: 3 Meters

| \#Freq  <br>   <br>  MHz | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~T} 5 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~T} 6 \\ & \mathrm{~dB} \end{aligned}$ | T3 dB | T4 dB | Dist <br> Table | $\begin{gathered} \text { Corr } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \\ \hline \end{gathered}$ | $\begin{gathered} \text { Spec } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \end{gathered}$ | Margin dB | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 13707.175 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 59.7 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -11.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 47.7 | 54.0 | -6.3 | Vert |
| $\wedge 3707.175 \mathrm{M}$ | 59.7 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 58.7 | 54.0 | +4.7 | Vert |
| $\begin{aligned} & 33707.208 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 59.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 47.0 | 54.0 | -7.0 | Horiz |
| ^ 3707.208M | 59.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 58.0 | 54.0 | +4.0 | Horiz |
| $\begin{aligned} & 53659.967 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 58.8 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 46.6 | 54.0 | -7.4 | Vert |
| $\wedge 3659.967 \mathrm{M}$ | 58.8 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 57.6 | 54.0 | +3.6 | Vert |
| $\begin{aligned} & 7 \text { 3707.017M } \\ & \text { Ave } \end{aligned}$ | 58.3 | $\begin{array}{r} -38.1 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} +32.2 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 46.3 | 54.0 | -7.7 | Horiz |
| $\wedge 3707.017 \mathrm{M}$ | 58.3 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} +32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 57.3 | 54.0 | +3.3 | Horiz |
| $\begin{aligned} & 93660.008 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 57.4 | $\begin{array}{r} -38.1 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 45.2 | 54.0 | -8.8 | Horiz |
| $\wedge 3660.008 \mathrm{M}$ | 57.4 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 56.2 | 54.0 | +2.2 | Horiz |
| $\begin{aligned} & 113611.992 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 57.1 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -11.0 \\ \hline \end{array}$ | +4.0 | +0.6 | +0.0 | 44.5 | 54.0 | -9.5 | Vert |
| ^ 3611.992M | 57.1 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.6 | +0.0 | 55.5 | 54.0 | +1.5 | Vert |
| $\begin{aligned} & 132780.275 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 58.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -11.0 \\ \hline \end{array}$ | +3.5 | +0.4 | +0.0 | 43.0 | 54.0 | -11.0 | Vert |
| ^ 2780.275M | 58.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 54.0 | 54.0 | +0.0 | Vert |
| $\begin{aligned} & 152744.950 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 57.5 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -11.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 41.7 | 54.0 | -12.3 | Vert |
| $\wedge 2744.950 \mathrm{M}$ | 57.5 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} +29.7 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 52.7 | 54.0 | -1.3 | Vert |
| $\begin{aligned} & 172709.017 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 55.8 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.5 \\ -11.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 39.8 | 54.0 | -14.2 | Vert |
| $\wedge 2709.017 \mathrm{M}$ | 55.8 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} +29.5 \\ +0.0 \end{array}$ | +3.4 | +0.4 | $+0.0$ | 50.8 | 54.0 | -3.2 | Vert |
| $\begin{aligned} & 195417.992 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 47.5 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ -11.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 39.3 | 54.0 | -14.7 | Vert |
| $\wedge 5417.992 \mathrm{M}$ | 47.5 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \\ \hline \end{array}$ | +5.1 | +0.7 | +0.0 | 50.3 | 54.0 | -3.7 | Vert |
| $\begin{aligned} & 212745.025 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 51.4 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -11.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 35.6 | 54.0 | -18.4 | Horiz |
| ^ 2745.025M | 51.4 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 46.6 | 54.0 | -7.4 | Horiz |


| $23$ | $2780.375 \mathrm{M}$ | 51.1 | $-38.5$ | $+29.8$ | +3.5 | +0.4 | +0.0 | 35.5 | 54.0 | -18.5 | Horiz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 24 | 2780.383M | 50.7 | -38.5 | +29.8 | +3.5 | +0.4 | +0.0 | 35.1 | 54.0 | -18.9 | Horiz |
| Ave |  |  | +0.2 | -11.0 |  |  |  |  |  |  |  |
| ^ 2780.375M |  | 51.1 | -38.5 | +29.8 | +3.5 | +0.4 | +0.0 | 46.5 | 54.0 | -7.5 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| $\wedge$ | 2780.383M | 50.7 | -38.5 | +29.8 | +3.5 | +0.4 | +0.0 | 46.1 | 54.0 | -7.9 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 27 | 4633.975M | 44.6 | -37.4 | +32.7 | +4.5 | +0.7 | +0.0 | 34.3 | 54.0 | -19.7 | Vert |
|  | Ave |  | +0.2 | -11.0 |  |  |  |  |  |  |  |
| ^ 4633.975M |  | 44.6 | -37.4 | +32.7 | +4.5 | +0.7 | +0.0 | 45.3 | 54.0 | -8.7 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 29 | 1806.017M | 67.8 | -38.8 | +26.7 | +2.8 | +0.4 | +0.0 | 59.1 | 89.6 | -30.5 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 30 | 1830.058M | 62.3 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 53.8 | 89.6 | -35.8 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 31 | 1853.575M | 61.8 | -38.8 | +27.0 | +2.9 | +0.4 | +0.0 | 53.5 | 89.6 | -36.1 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 32 | 5560.775M | 50.5 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 53.3 | 89.6 | -36.3 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 33 | 5560.758M | 50.5 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 53.3 | 89.6 | -36.3 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 34 | 5490.150M | 50.3 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 53.2 | 89.6 | -36.4 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 35 | 1830.017M | 60.4 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 51.9 | 89.6 | -37.7 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 36 | 5560.775M | 47.9 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 50.7 | 89.6 | -38.9 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 37 | 1853.583M | 58.7 | -38.8 | +27.0 | +2.9 | +0.4 | +0.0 | 50.4 | 89.6 | -39.2 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 38 | 1853.575M | 58.7 | -38.8 | +27.0 | +2.9 | +0.4 | +0.0 | 50.4 | 89.6 | -39.2 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 39 | 5489.967M | 46.5 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 49.4 | 89.6 | -40.2 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |

Test Location: CKC Laboratories Inc. • 110 N. Olinda Pl. • Brea, CA 92823 • 714-993-6112
Customer: Itron, Inc.
Specification: 15.247(d)/15.209 Radiated Spurious Emissions
Work Order \#: 104622 Date: 1/22/2021

Test Type: Radiated Emissions
Time: 11.51:27
Tested By:
Don Nguyen
Sequence\#: 3
Software:
EMITest 5.03.19

## Equipment Tested:

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

Support Equipment:

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

## Test Conditions / Notes:

The EUT is placed on Styrofoam platform and powered from 3.6 V fresh battery.
EUT has fixed orientation per manufacture's specification.
Operating frequency range/ mode
$903-926.8 \mathrm{MHz}, 200 \mathrm{kHz}$ steps, 120 channels, 16384 OOK LV3
Frequency of measurement: $9 \mathrm{k}-9280 \mathrm{MHz}$
9 kHz to 150 kHz RBW $=0.2 \mathrm{kHz}, \mathrm{VBW}=0.6 \mathrm{kHz}$
150 kHz to 30 MHz RBW $=9 \mathrm{kHz}, V B W=27 \mathrm{kHz}$
$30-1000 \mathrm{MHz}, \mathrm{RBW}=120 \mathrm{kHz}, \mathrm{VBW}=360 \mathrm{kHz}$
$1000-9280 \mathrm{MHz}, \mathrm{RBW}=1 \mathrm{MHz}, \mathrm{VBW}=3 \mathrm{MHz}$
-20 dBc limit, $\mathrm{RBW}=100 \mathrm{kHz}, \mathrm{VBW}=300 \mathrm{kHz}$
Note: The manufacturer declares the worst case duty cycle is 28.05 ms per 100 ms . Duty cycle correction factor= $20 \log (28.05 \mathrm{~ms} / 100 \mathrm{~ms})=-11.04 \mathrm{~dB}$. Average readings in restricted band are calculated from peak readings with duty cycle correction factor.

Test Method: ANSI C63.10 (2013)
Temperature ( ${ }^{\circ} \mathrm{C}$ ): 24
Relative Humidity (\%): 30
Modification 1 was in place during testing.

Itron, Inc. WO\#: 104622 Sequence\#: 3 Date: $1 / 22 / 2021$
15.247 (d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert


- Readings
$\times$ QP Readings
- Ambient

$1-15.247$ (d) $/ 15.209$ Radiated Spurious Emissions

O Peak Readings<br>* Average Readings<br>Software Version: 5.03:19

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | AN00314 | Loop Antenna | 6502 | $4 / 13 / 2020$ | $4 / 13 / 2022$ |
|  | ANP05281 | Attenuator | 1B | $4 / 7 / 2020$ | $4 / 7 / 2022$ |
|  | ANP05198 | Cable-Amplitude <br> +15C to +45C (dB) | 8268 | $12 / 21 / 2020$ | $12 / 21 / 2022$ |
|  |  | Biconilog Antenna | CBL6111C | $6 / 11 / 2019$ | $6 / 11 / 2021$ |
| T1 | AN01993 | Preamp | $83017 A$ | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T2 | AN00849 | Horn Antenna | 3115 | $3 / 17 / 2020$ | $3 / 17 / 2022$ |
| T3 | ANP06360 | Cable | L1-PNMNM-48 | $8 / 8 / 2019$ | $8 / 8 / 2021$ |
| T4 | ANP07246 | Cable | 32022-29094K- <br>  |  | $5 / 29 / 2020$ |
| T5 | AN03169 | High Pass Filter | HM1155-11SS | $5 / 8 / 2019$ | $5 / 29 / 2022$ |
| T6 | AN02869 | Spectrum Analyzer | E4440A | $8 / 3 / 2020$ | $8 / 8 / 2021$ |
| T7 | ANDCCF | Duty Cycle |  | $1 / 1 / 2021$ | $1 / 1 / 2025$ |
|  |  | Correction Factor |  |  |  |

Measurement Data: $\quad$ Reading listed by margin.
Test Distance: 3 Meters

| $\begin{array}{ll} \hline \# & \text { Freq } \\ & \mathrm{MHz} \end{array}$ | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~T} 5 \\ & \text { dB } \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~T} 6 \\ & \text { dB } \end{aligned}$ | $\begin{aligned} & \mathrm{T} 3 \\ & \mathrm{~T} 7 \\ & \mathrm{~dB} \\ & \hline \end{aligned}$ | T4 <br> dB | Dist <br> Table | Corr $\mathrm{dB} \mu \mathrm{~V} / \mathrm{m}$ | $\begin{gathered} \text { Spec } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \end{gathered}$ | Margin dB | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 12780.400 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 68.2 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \\ \hline \end{array}$ | $\begin{array}{r} +3.5 \\ -11.0 \\ \hline \end{array}$ | +0.4 | +0.0 | 52.6 | 54.0 | -1.4 | Vert |
| $\wedge 2780.400 \mathrm{M}$ | 68.2 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \\ \hline \end{array}$ | $\begin{aligned} & +3.5 \\ & +0.0 \\ & \hline \end{aligned}$ | +0.4 | +0.0 | 63.6 | 54.0 | +9.6 | Vert |
| $\begin{aligned} & 3 \text { 3707.250M } \\ & \text { Ave } \end{aligned}$ | 64.5 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | $\begin{array}{r} +4.0 \\ -11.0 \end{array}$ | +0.7 | +0.0 | 52.5 | 54.0 | -1.5 | Vert |
| $\wedge 3707.250 \mathrm{M}$ | 64.5 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+4.0 \\ & +0.0 \end{aligned}$ | +0.7 | +0.0 | 63.5 | 54.0 | +9.5 | Vert |
| $\begin{aligned} & 5 \text { 3659.950M } \\ & \text { Ave } \end{aligned}$ | 64.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | $\begin{array}{r} +4.0 \\ -11.0 \end{array}$ | +0.7 | +0.0 | 51.8 | 54.0 | -2.2 | Vert |
| $\wedge 3659.950 \mathrm{M}$ | 64.0 | $\begin{array}{r} -38.1 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \\ \hline \end{array}$ | $\begin{array}{r} +4.0 \\ +0.0 \\ \hline \end{array}$ | +0.7 | +0.0 | 62.8 | 54.0 | +8.8 | Vert |
| $\begin{aligned} & 7 \text { 2745.033M } \\ & \text { Ave } \end{aligned}$ | 66.7 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \end{array}$ | $\begin{array}{r} \hline+3.4 \\ -11.0 \end{array}$ | +0.4 | +0.0 | 50.9 | 54.0 | -3.1 | Vert |
| $\wedge 2745.033 \mathrm{M}$ | 66.7 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \end{array}$ | $\begin{array}{r} +3.4 \\ +0.0 \\ \hline \end{array}$ | +0.4 | +0.0 | 61.9 | 54.0 | +7.9 | Vert |
| $\begin{aligned} & 93612.117 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 63.0 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \\ \hline \end{array}$ | $\begin{gathered} +4.0 \\ -11.0 \end{gathered}$ | +0.6 | +0.0 | 50.4 | 54.0 | -3.6 | Vert |
| $\wedge 3612.117 \mathrm{M}$ | 63.0 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \\ \hline \end{array}$ | $\begin{array}{r} +4.0 \\ +0.0 \\ \hline \end{array}$ | +0.6 | +0.0 | 61.4 | 54.0 | +7.4 | Vert |
| $\begin{aligned} & 113707.292 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 62.1 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | $\begin{array}{r} +4.0 \\ -11.0 \end{array}$ | +0.7 | +0.0 | 50.1 | 54.0 | -3.9 | Horiz |
| ^ 3707.292M | 62.1 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+4.0 \\ & +0.0 \end{aligned}$ | +0.7 | +0.0 | 61.1 | 54.0 | +7.1 | Horiz |
| $\begin{aligned} & 133660.133 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 62.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \\ \hline \end{array}$ | $\begin{array}{r} +4.0 \\ -11.0 \\ \hline \end{array}$ | +0.7 | +0.0 | 49.8 | 54.0 | -4.2 | Horiz |
| $\wedge 3660.133 \mathrm{M}$ | 62.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+4.0 \\ & +0.0 \end{aligned}$ | +0.7 | +0.0 | 60.8 | 54.0 | +6.8 | Horiz |
| $\begin{aligned} & 152708.950 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 64.5 | $\begin{array}{r} \hline-38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ +0.0 \\ \hline \end{array}$ | $\begin{array}{r} +3.4 \\ -11.0 \\ \hline \end{array}$ | +0.4 | +0.0 | 48.5 | 54.0 | -5.5 | Vert |
| $\wedge 2708.950 \mathrm{M}$ | 64.5 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+3.4 \\ & +0.0 \end{aligned}$ | +0.4 | +0.0 | 59.5 | 54.0 | +5.5 | Vert |
| $\begin{aligned} & 173612.050 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 60.5 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \\ \hline \end{array}$ | $\begin{array}{r} +4.0 \\ -11.0 \end{array}$ | +0.6 | +0.0 | 47.9 | 54.0 | -6.1 | Horiz |
| $\wedge 3612.050 \mathrm{M}$ | 60.5 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | $\begin{aligned} & +4.0 \\ & +0.0 \end{aligned}$ | +0.6 | +0.0 | 58.9 | 54.0 | +4.9 | Horiz |
| $\begin{aligned} & 192780.392 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 59.9 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \end{array}$ | $\begin{array}{r} +3.5 \\ -11.0 \end{array}$ | +0.4 | +0.0 | 44.3 | 54.0 | -9.7 | Horiz |
| ^ 2780.392M | 59.9 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \\ \hline \end{array}$ | $\begin{aligned} & +3.5 \\ & +0.0 \\ & \hline \end{aligned}$ | +0.4 | +0.0 | 55.3 | 54.0 | +1.3 | Horiz |
| $\begin{aligned} & 215418.100 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 49.6 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \end{array}$ | $\begin{array}{r} +5.1 \\ -11.0 \end{array}$ | +0.7 | +0.0 | 41.4 | 54.0 | -12.6 | Horiz |
| $\wedge$ ^ 5418.100 M | 49.6 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+5.1 \\ & +0.0 \end{aligned}$ | +0.7 | +0.0 | 52.4 | 54.0 | -1.6 | Horiz |


| $\begin{aligned} & 23 \text { 2745.050M } \\ & \text { Ave } \end{aligned}$ | 56.2 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \end{array}$ | $\begin{gathered} +3.4 \\ -11.0 \end{gathered}$ | +0.4 | +0.0 | 40.4 | 54.0 | -13.6 | Horiz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge 2745.050 \mathrm{M}$ | 56.2 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+3.4 \\ & +0.0 \end{aligned}$ | +0.4 | +0.0 | 51.4 | 54.0 | -2.6 | Horiz |
| $\begin{aligned} & 252708.983 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 54.0 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ +0.0 \\ \hline \end{array}$ | $\begin{gathered} +3.4 \\ -11.0 \end{gathered}$ | +0.4 | +0.0 | 38.0 | 54.0 | -16.0 | Horiz |
| $\wedge 2708.983 \mathrm{M}$ | 54.0 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.5 \\ +0.0 \\ \hline \end{array}$ | $\begin{array}{r} +3.4 \\ +0.0 \\ \hline \end{array}$ | +0.4 | +0.0 | 49.0 | 54.0 | -5.0 | Horiz |
| $\begin{aligned} & 27 \text { 5418.000M } \\ & \text { Ave } \end{aligned}$ | 43.4 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \end{array}$ | $\begin{array}{r} +5.1 \\ -11.0 \end{array}$ | +0.7 | +0.0 | 35.2 | 54.0 | -18.8 | Vert |
| $\wedge 5418.000 \mathrm{M}$ | 43.4 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+5.1 \\ & +0.0 \end{aligned}$ | +0.7 | $+0.0$ | 46.2 | 54.0 | -7.8 | Vert |
| 291806.000 M | 69.9 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+26.7 \\ +0.0 \\ \hline \end{array}$ | $\begin{aligned} & \hline+2.8 \\ & +0.0 \\ & \hline \end{aligned}$ | +0.4 | +0.0 | 61.2 | 93.9 | -32.7 | Vert |
| $30 \quad 1853.617 \mathrm{M}$ | 69.4 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+27.0 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+2.9 \\ & +0.0 \end{aligned}$ | +0.4 | +0.0 | 61.1 | 93.9 | -32.8 | Vert |
| $31 \quad 1829.917 \mathrm{M}$ | 67.2 | $\begin{array}{r} -38.8 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+26.9 \\ +0.0 \\ \hline \end{array}$ | $\begin{array}{r} +2.8 \\ +0.0 \\ \hline \end{array}$ | +0.4 | $+0.0$ | 58.7 | 93.9 | -35.2 | Vert |
| $32 \quad 1853.550 \mathrm{M}$ | 65.8 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+27.0 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+2.9 \\ & +0.0 \end{aligned}$ | +0.4 | +0.0 | 57.5 | 93.9 | -36.4 | Horiz |
| 33 5560.675M | 53.1 | $\begin{array}{r} -37.3 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.1 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+5.1 \\ & +0.0 \end{aligned}$ | +0.7 | $+0.0$ | 55.9 | 93.9 | -38.0 | Horiz |
| 341806.067 M | 64.4 | $\begin{array}{r} \hline-38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+26.7 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+2.8 \\ & +0.0 \end{aligned}$ | +0.4 | +0.0 | 55.7 | 93.9 | -38.2 | Horiz |
| 35 1829.950M | 63.9 | $\begin{array}{r} \hline-38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+26.9 \\ +0.0 \end{array}$ | $\begin{aligned} & \hline+2.8 \\ & +0.0 \end{aligned}$ | +0.4 | +0.0 | 55.4 | 93.9 | -38.5 | Horiz |
| 365490.017 M | 51.8 | $\begin{array}{r} -37.2 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+34.1 \\ +0.0 \\ \hline \end{array}$ | $\begin{array}{r} +5.1 \\ +0.0 \\ \hline \end{array}$ | +0.7 | +0.0 | 54.7 | 93.9 | -39.2 | Horiz |
| 37 5489.983M | 49.9 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} +34.1 \\ +0.0 \end{array}$ | $\begin{aligned} & +5.1 \\ & +0.0 \\ & \hline \end{aligned}$ | +0.7 | +0.0 | 52.8 | 93.9 | -41.1 | Vert |

Test Location: CKC Laboratories Inc. • 110 N. Olinda Pl. • Brea, CA 92823 • 714-993-6112
Customer: Itron, Inc.
Specification: 15.247(d)/15.209 Radiated Spurious Emissions
Work Order \#: 104621 Date: 1/22/2021

Test Type: Radiated Emissions
Time: 10:20:37
Tested By:
Don Nguyen
Sequence\#: 10
Software:
EMITest 5.03.19

## Equipment Tested:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 2 |  | S/N |

## Support Equipment:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 2 |  | S/N |

## Test Conditions / Notes:

The EUT is placed on Styrofoam platform and powered from 3.6 V fresh battery. The EUT is connected to a remote located laptop running CLI Tool ver.2.0.1.24.
EUT has fixed orientation per manufacture's specification.
Operating frequency range/ mode
902.4-927.6MHz, 400kHz steps, 64 channels, 300k GFSK LV2/LV3

Frequency of measurement: $9 \mathrm{k}-9280 \mathrm{MHz}$
9 kHz to 150 kHz RBW $=0.2 \mathrm{kHz}, \mathrm{VBW}=0.6 \mathrm{kHz}$
150 kHz to 30 MHz RBW $=9 \mathrm{kHz}, V B W=27 \mathrm{kHz}$
$30-1000 \mathrm{MHz}, \mathrm{RBW}=120 \mathrm{kHz}, V B W=360 \mathrm{kHz}$
$1000-9280 \mathrm{MHz}, \mathrm{RBW}=1 \mathrm{MHz}, \mathrm{VBW}=3 \mathrm{MHz}$
-20 dBc limit, $\mathrm{RBW}=100 \mathrm{kHz}, \mathrm{VBW}=300 \mathrm{kHz}$

Note: The manufacturer declares the worst case duty cycle is 45 ms per 100 ms . Duty cycle correction factor= $20 \log (45 \mathrm{~ms} / 100 \mathrm{~ms})=-6.9 \mathrm{~dB}$. Average readings in restricted band are calculated from peak readings with duty cycle correction factor.

Test Method: ANSI C63.10 (2013)
Temperature ( ${ }^{\circ} \mathrm{C}$ ): 24
Relative Humidity (\%): 30
Modification 1 was in place during testing.

Itron. Inc. WO\#: 104621 Sequence\#: 10 Date: 1/22/2021
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert


| - Readings |
| :--- |
| $\times$ QP Readings |
| - Ambient |
|  |

O Peak Readings<br>* Average Readings<br>Software Version: 5.03:19

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | AN00314 | Loop Antenna | 6502 | $4 / 13 / 2020$ | $4 / 13 / 2022$ |
|  | ANP01911 | Cable-Amplitude <br> +15C to +45C (dB) | RG214/U | $1 / 2 / 2020$ | $1 / 2 / 2022$ |
|  | ANP05281 | Attenuator | 1B | $4 / 7 / 2020$ | $4 / 7 / 2022$ |
|  | AN01993 | Biconilog Antenna | CBL6111C | $6 / 11 / 2019$ | $6 / 11 / 2021$ |
| T1 | AN00786 | Preamp | $83017 A$ | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T2 | AN00849 | Horn Antenna | 3115 | $3 / 17 / 2020$ | $3 / 17 / 2022$ |
| T3 | ANP06360 | Cable | L1-PNMNM-48 | $8 / 8 / 2019$ | $8 / 8 / 2021$ |
| T4 | ANP07246 | Cable | 32022-29094K- <br>  |  | $5 / 29 / 2020$ |
| T5 | AN03169 | High Pass Filter | HM1155-11SS | $5 / 8 / 2019$ | $5 / 29 / 2022$ |
|  | AN02869 | Spectrum Analyzer | E4440A | $8 / 3 / 2020$ | $8 / 8 / 2021$ |
| T6 | ANDCCF | Duty Cycle |  | $1 / 1 / 2021$ | $1 / 1 / 2025$ |
|  |  | Correction Factor |  |  |  |

Measurement Data: $\quad$ Reading listed by margin.
Test Distance: 3 Meters

| \#Freq  <br>  MHz | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \text { T1 } \\ & \text { T5 } \\ & \text { dB } \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~T} 6 \\ & \text { dB } \end{aligned}$ | $\begin{gathered} \text { T3 } \\ \text { dB } \end{gathered}$ | T4 <br> dB | Dist <br> Table | $\begin{gathered} \text { Corr } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \end{gathered}$ | $\begin{gathered} \text { Spec } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \end{gathered}$ | Margin dB | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 13661.067 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 61.7 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -7.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 53.5 | 54.0 | -0.5 | Vert |
| $\wedge 3661.067 \mathrm{M}$ | 61.7 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} +32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 60.5 | 54.0 | +6.5 | Vert |
| $\begin{aligned} & 3 \text { 3710.617M } \\ & \text { Ave } \end{aligned}$ | 61.1 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -7.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 53.1 | 54.0 | -0.9 | Vert |
| $\wedge 3710.617 \mathrm{M}$ | 61.1 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 60.1 | 54.0 | +6.1 | Vert |
| $\begin{aligned} & 5 \text { 3609.833M } \\ & \text { Ave } \end{aligned}$ | 59.6 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -7.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 51.0 | 54.0 | -3.0 | Vert |
| $\wedge 3609.833 \mathrm{M}$ | 59.6 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 58.0 | 54.0 | +4.0 | Vert |
| $\begin{aligned} & 7 \text { 3710.067M } \\ & \text { Ave } \end{aligned}$ | 56.0 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -7.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 48.0 | 54.0 | -6.0 | Horiz |
| $\wedge 3710.067 \mathrm{M}$ | 56.0 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 55.0 | 54.0 | +1.0 | Horiz |
| $\begin{aligned} & 93660.400 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 54.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -7.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 45.8 | 54.0 | -8.2 | Horiz |
| ^ 3660.400M | 54.0 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} +32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 52.8 | 54.0 | -1.2 | Horiz |
| $\begin{aligned} & 112782.733 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 56.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -7.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 45.0 | 54.0 | -9.0 | Vert |
| $\wedge 2782.733 \mathrm{M}$ | 56.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} +29.8 \\ +0.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 52.0 | 54.0 | -2.0 | Vert |
| $\begin{aligned} & 135413.750 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 49.1 | $\begin{array}{r} \hline-37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} +34.0 \\ -7.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 44.9 | 54.0 | -9.1 | Horiz |
| $\wedge 5413.750 \mathrm{M}$ | 49.1 | $\begin{array}{r} \hline-37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 51.9 | 54.0 | -2.1 | Horiz |
| $\begin{aligned} & 15 \text { 3609.933M } \\ & \text { Ave } \end{aligned}$ | 53.3 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -7.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 44.7 | 54.0 | -9.3 | Horiz |
| $\wedge 3609.933 \mathrm{M}$ | 53.3 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 51.7 | 54.0 | -2.3 | Horiz |
| $\begin{aligned} & 175414.483 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 47.8 | $\begin{array}{r} \hline-37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} +34.0 \\ -7.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 43.6 | 54.0 | -10.4 | Vert |
| $\wedge$ ^ 5414.483 M | 47.8 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} +34.0 \\ +0.0 \\ \hline \end{array}$ | +5.1 | +0.7 | +0.0 | 50.6 | 54.0 | -3.4 | Vert |
| $\begin{aligned} & 192745.750 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 55.1 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -7.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 43.3 | 54.0 | -10.7 | Vert |
| $\wedge 2745.750 \mathrm{M}$ | 55.1 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 50.3 | 54.0 | -3.7 | Vert |
| $\begin{aligned} & 21 \begin{array}{l} 4576.167 \mathrm{M} \\ \text { Ave } \end{array} \end{aligned}$ | 46.0 | $\begin{array}{r} \hline-37.4 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.6 \\ -7.0 \end{array}$ | +4.5 | +0.6 | +0.0 | 39.5 | 54.0 | -14.5 | Vert |
| ^ 4576.167M | 46.0 | $\begin{array}{r} \hline-37.4 \\ +0.2 \end{array}$ | $\begin{array}{r} +32.6 \\ +0.0 \\ \hline \end{array}$ | +4.5 | +0.6 | +0.0 | 46.5 | 54.0 | -7.5 | Vert |


| $23$ | $3 \text { 2782.750M }$ | 49.0 | $-38.5$ | $+29.8$ | +3.5 | +0.4 | +0.0 | 37.4 | 54.0 | -16.6 | Horiz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge$ | 2782.750M | 49.0 | -38.5 | +29.8 | +3.5 | +0.4 | +0.0 | 44.4 | 54.0 | -9.6 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 25 | 2707.250M | 49.3 | -38.5 | +29.5 | +3.4 | +0.4 | +0.0 | 37.3 | 54.0 | -16.7 | Vert |
|  | Ave |  | +0.2 | -7.0 |  |  |  |  |  |  |  |
| ^ 2707.250M |  | 49.3 | -38.5 | +29.5 | +3.4 | +0.4 | +0.0 | 44.3 | 54.0 | -9.7 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 27 | 2745.750M | 49.0 | -38.5 | +29.7 | +3.4 | +0.4 | +0.0 | 37.2 | 54.0 | -16.8 | Horiz |
|  | Ave |  | +0.2 | -7.0 |  |  |  |  |  |  |  |
| $\wedge$ | 2745.750M | 49.0 | -38.5 | +29.7 | +3.4 | +0.4 | +0.0 | 44.2 | 54.0 | -9.8 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 29 | 1855.000M | 66.2 | -38.8 | +27.0 | +2.9 | +0.4 | +0.0 | 57.9 | 87.6 | -29.7 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 30 | 1830.350M | 64.5 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 56.0 | 87.6 | -31.6 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 31 | 1804.850M | 64.1 | -38.8 | +26.7 | +2.8 | +0.4 | +0.0 | 55.4 | 87.6 | -32.2 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 32 | 5565.200M | 50.8 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 53.6 | 87.6 | -34.0 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 33 | 5565.883M | 50.4 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 53.2 | 87.6 | -34.4 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 34 | 5491.283M | 50.2 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 53.1 | 87.6 | -34.5 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 35 | 5491.450M | 49.3 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 52.2 | 87.6 | -35.4 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 36 | 1830.417M | 59.0 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 50.5 | 87.6 | -37.1 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 37 | 1805.000M | 57.6 | -38.8 | +26.7 | +2.8 | +0.4 | $+0.0$ | 48.9 | 87.6 | -38.7 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 38 | 1855.383M | 56.5 | -38.8 | +27.0 | +2.9 | +0.4 | $+0.0$ | 48.2 | 87.6 | -39.4 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |

Test Location: CKC Laboratories Inc. • 110 N. Olinda Pl. • Brea, CA 92823 • 714-993-6112
Customer: Itron, Inc.
Specification: 15.247(d)/15.209 Radiated Spurious Emissions
Work Order \#: 104621 Date: 12/30/2020
Test Type: Radiated Emissions
Time: 15:40:55
Tested By:
Don Nguyen
Sequence\#: 9
Software:
EMITest 5.03.19

## Equipment Tested:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 2 |  | S/N |

## Support Equipment:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 2 |  | S/N |

## Test Conditions / Notes:

The EUT is placed on Styrofoam platform and powered from 3.6V fresh battery. The EUT is connected to a remote located laptop running CLI Tool ver.2.0.1.24.
EUT has fixed orientation per manufacture's specification.
Operating frequency range/ mode
$903-926.8 \mathrm{MHz}, 200 \mathrm{kHz}$ steps, 120 channels, 16384 OOK LV1
Frequency of measurement: $9 \mathrm{k}-9280 \mathrm{MHz}$
9 kHz to 150 kHz RBW $=0.2 \mathrm{kHz}, \mathrm{VBW}=0.6 \mathrm{kHz}$
150 kHz to 30 MHz RBW $=9 \mathrm{kHz}, V B W=27 \mathrm{kHz}$
$30-1000 \mathrm{MHz}, \mathrm{RBW}=120 \mathrm{kHz}, V B W=360 \mathrm{kHz}$
$1000-9280 \mathrm{MHz}, \mathrm{RBW}=1 \mathrm{MHz}, \mathrm{VBW}=3 \mathrm{MHz}$
-20 dBc limit, $\mathrm{RBW}=100 \mathrm{kHz}, \mathrm{VBW}=300 \mathrm{kHz}$
Note: The manufacturer declares the worst case duty cycle is 28.05 ms per 100 ms . Duty cycle correction factor= $20 \log (28.05 \mathrm{~ms} / 100 \mathrm{~ms})=-11.04 \mathrm{~dB}$. Average readings in restricted band are calculated from peak readings with duty cycle correction factor.

Test Method: ANSI C63.10 (2013)
Temperature ( ${ }^{\circ} \mathrm{C}$ ): 24
Relative Humidity (\%): 30
Modification 1 was in place during testing.

Itron, Inc. WO\#: 104621 Sequence\#: 9 Date: $12 / 30 / 2020$
15.247 (d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert


O Peak Readings

* Average Readings
Software Version: $5 \cdot 03.19$

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | AN00314 | Loop Antenna | 6502 | $4 / 13 / 2020$ | $4 / 13 / 2022$ |
|  | ANP01911 | Cable-Amplitude <br> $+15 C ~ t o ~+45 C ~(d B) ~$ | RG214/U | $1 / 2 / 2020$ | $1 / 2 / 2022$ |
|  | ANP05281 | Attenuator | 1B | $4 / 7 / 2020$ | $4 / 7 / 2022$ |
|  | AN01993 | Biconilog Antenna | CBL6111C | $6 / 11 / 2019$ | $6 / 11 / 2021$ |
|  | AN03643 | Spectrum Analyzer | E4440A | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T1 | AN00786 | Preamp | $83017 A$ | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T2 | AN00849 | Horn Antenna | 3115 | $3 / 17 / 2020$ | $3 / 17 / 2022$ |
| T3 | ANP06360 | Cable | L1-PNMNM-48 | $8 / 8 / 2019$ | $8 / 8 / 2021$ |
| T4 | ANP07246 | Cable | $32022-29094 K-$ <br> $29094 K-24 T C ~$ | $5 / 29 / 2020$ | $5 / 29 / 2022$ |
| T5 | AN03169 | High Pass Filter | HM1155-11SS | $5 / 8 / 2019$ | $5 / 8 / 2021$ |
| T6 | ANDCCF | Duty Cycle |  | $1 / 1 / 2021$ | $1 / 1 / 2025$ |
|  |  | Correction Factor |  |  |  |

Measurement Data: $\quad$ Reading listed by margin.
Test Distance: 3 Meters

| $\#$ Freq <br>   <br>  MHz | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \text { T1 } \\ & \text { T5 } \\ & \text { dB } \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \text { T6 } \\ & \text { dB } \end{aligned}$ | $\begin{aligned} & \mathrm{T} 3 \\ & \mathrm{~dB} \end{aligned}$ | T4 <br> dB | Dist <br> Table | $\begin{gathered} \text { Corr } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \end{gathered}$ | $\begin{gathered} \text { Spec } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \end{gathered}$ | Margin dB | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 13660.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 60.0 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 47.8 | 54.0 | -6.2 | Vert |
| $\wedge 3660.000 \mathrm{M}$ | 60.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 58.8 | 54.0 | +4.8 | Vert |
| $\begin{aligned} & 3 \text { 3707.192M } \\ & \text { Ave } \end{aligned}$ | 57.9 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 45.9 | 54.0 | -8.1 | Vert |
| $\wedge 3707.192 \mathrm{M}$ | 57.9 | $\begin{array}{r} -38.1 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 56.9 | 54.0 | +2.9 | Vert |
| $\begin{aligned} & 5 \text { 3611.992M } \\ & \text { Ave } \end{aligned}$ | 56.9 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -11.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 44.3 | 54.0 | -9.7 | Vert |
| $\wedge 3611.992 \mathrm{M}$ | 56.9 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 55.3 | 54.0 | +1.3 | Vert |
| $\begin{aligned} & 7 \text { 3707.192M } \\ & \text { Ave } \end{aligned}$ | 54.9 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -11.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 42.9 | 54.0 | -11.1 | Horiz |
| $\wedge 3707.192 \mathrm{M}$ | 54.9 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 53.9 | 54.0 | -0.1 | Horiz |
| $\begin{aligned} & 9 \text { 3659.992M } \\ & \text { Ave } \end{aligned}$ | 54.5 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 42.3 | 54.0 | -11.7 | Horiz |
| $\wedge 3659.992 \mathrm{M}$ | 54.5 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 53.3 | 54.0 | -0.7 | Horiz |
| $\begin{aligned} & 115418.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 49.6 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ -11.0 \\ \hline \end{array}$ | +5.1 | +0.7 | +0.0 | 41.4 | 54.0 | -12.6 | Horiz |
| $\wedge 5418.000 \mathrm{M}$ | 49.6 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 52.4 | 54.0 | -1.6 | Horiz |
| $\begin{aligned} & 135417.992 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 49.2 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ -11.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 41.0 | 54.0 | -13.0 | Vert |
| $\wedge$ 5417.992M | 49.2 | $\begin{array}{r} -37.2 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} +34.0 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 52.0 | 54.0 | -2.0 | Vert |
| $\begin{aligned} & 153612.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 53.5 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -11.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 40.9 | 54.0 | -13.1 | Horiz |
| $\wedge 3612.000 \mathrm{M}$ | 53.5 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 51.9 | 54.0 | -2.1 | Horiz |
| $\begin{aligned} & 17 \text { 2780.392M } \\ & \text { Ave } \end{aligned}$ | 52.2 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -11.0 \\ \hline \end{array}$ | +3.5 | +0.4 | +0.0 | 36.6 | 54.0 | -17.4 | Vert |
| $\wedge 2780.392 \mathrm{M}$ | 52.2 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \\ \hline \end{array}$ | +3.5 | +0.4 | +0.0 | 47.6 | 54.0 | -6.4 | Vert |
| $\begin{aligned} & 192780.392 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 51.0 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -11.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 35.4 | 54.0 | -18.6 | Horiz |
| $\wedge 2780.392 \mathrm{M}$ | 51.0 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 46.4 | 54.0 | -7.6 | Horiz |


| $\begin{aligned} & 21 \text { 4574.992M } \\ & \text { Ave } \end{aligned}$ | 45.4 | $\begin{array}{r} \hline-37.4 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.6 \\ -11.0 \end{array}$ | +4.5 | +0.6 | +0.0 | 34.9 | 54.0 | -19.1 | Horiz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge ~ 4574.992 \mathrm{M}$ | 45.4 | $\begin{array}{r} \hline-37.4 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.6 \\ +0.0 \end{array}$ | +4.5 | +0.6 | +0.0 | 45.9 | 54.0 | -8.1 | Horiz |
| $\begin{aligned} & 23 \text { 2745.000M } \\ & \text { Ave } \end{aligned}$ | 50.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -11.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 34.8 | 54.0 | -19.2 | Vert |
| $\wedge 2745.000 \mathrm{M}$ | 50.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 45.8 | 54.0 | -8.2 | Vert |
| $\begin{aligned} & 252708.992 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 50.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ -11.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 34.6 | 54.0 | -19.4 | Vert |
| $\wedge 2708.992 \mathrm{M}$ | 50.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 45.6 | 54.0 | -8.4 | Vert |
| $\begin{aligned} & 272709.000 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 50.3 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ -11.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 34.3 | 54.0 | -19.7 | Horiz |
| $\wedge 2709.000 \mathrm{M}$ | 50.3 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 45.3 | 54.0 | -8.7 | Horiz |
| $\begin{aligned} & 29 \text { 2744.992M } \\ & \text { Ave } \end{aligned}$ | 49.1 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -11.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 33.3 | 54.0 | -20.7 | Horiz |
| $\wedge$ 2744.992M | 49.1 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 44.3 | 54.0 | -9.7 | Horiz |
| $31 \quad 1853.592 \mathrm{M}$ | 66.9 | $\begin{array}{r} -38.8 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+27.0 \\ +0.0 \\ \hline \end{array}$ | +2.9 | +0.4 | $+0.0$ | 58.6 | 88.2 | -29.6 | Vert |
| $32 \quad 1830.000 \mathrm{M}$ | 65.2 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+26.9 \\ +0.0 \end{array}$ | +2.8 | +0.4 | +0.0 | 56.7 | 88.2 | -31.5 | Vert |
| 33 1805.992M | 63.6 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+26.7 \\ +0.0 \end{array}$ | +2.8 | +0.4 | $+0.0$ | 54.9 | 88.2 | -33.3 | Vert |
| 345489.992 M | 51.1 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.1 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 54.0 | 88.2 | -34.2 | Horiz |
| $35 \quad 5490.000 \mathrm{M}$ | 49.3 | $\begin{array}{r} \hline-37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.1 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 52.2 | 88.2 | -36.0 | Vert |
| 365560.792 M | 49.1 | $\begin{array}{r} -37.3 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.1 \\ +0.0 \\ \hline \end{array}$ | +5.1 | +0.7 | +0.0 | 51.9 | 88.2 | -36.3 | Vert |
| 37 5560.792M | 48.5 | $\begin{array}{r} -37.3 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.1 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 51.3 | 88.2 | -36.9 | Horiz |
| 381806.000 M | 58.4 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+26.7 \\ +0.0 \end{array}$ | +2.8 | +0.4 | $+0.0$ | 49.7 | 88.2 | -38.5 | Horiz |
| $39 \quad 1853.592 \mathrm{M}$ | 57.8 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+27.0 \\ +0.0 \end{array}$ | +2.9 | +0.4 | +0.0 | 49.5 | 88.2 | -38.7 | Horiz |
| $40 \quad 1829.992 \mathrm{M}$ | 57.3 | $\begin{array}{r} -38.8 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} +26.9 \\ +0.0 \\ \hline \end{array}$ | +2.8 | +0.4 | +0.0 | 48.8 | 88.2 | -39.4 | Horiz |

Test Location: CKC Laboratories Inc. • 110 N. Olinda Pl. • Brea, CA 92823 • 714-993-6112
Customer: Itron, Inc.
Specification: 15.247(d)/15.209 Radiated Spurious Emissions
Work Order \#: 104622 Date: 1/22/2021

Test Type: Radiated Emissions
Time: 11:05:54
Tested By:
Don Nguyen
Sequence\#: 2
Software:
EMITest 5.03.19

## Equipment Tested:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 2 |  | S/N |

Support Equipment:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 2 |  | S/N |

## Test Conditions / Notes:

The EUT is placed on Styrofoam platform and powered from 3.6V fresh battery.
EUT has fixed orientation per manufacture's specification.
Operating frequency range/ mode
$903-926.8 \mathrm{MHz}, 200 \mathrm{kHz}$ steps, 120 channels, 16384 OOK LV3
Frequency of measurement: $9 \mathrm{k}-9280 \mathrm{MHz}$
9 kHz to 150 kHz RBW $=0.2 \mathrm{kHz}, \mathrm{VBW}=0.6 \mathrm{kHz}$
150 kHz to 30 MHz RBW $=9 \mathrm{kHz}, V B W=27 \mathrm{kHz}$
$30-1000 \mathrm{MHz}, \mathrm{RBW}=120 \mathrm{kHz}, \mathrm{VBW}=360 \mathrm{kHz}$
$1000-9280 \mathrm{MHz}, \mathrm{RBW}=1 \mathrm{MHz}, \mathrm{VBW}=3 \mathrm{MHz}$
-20 dBc limit, $\mathrm{RBW}=100 \mathrm{kHz}, \mathrm{VBW}=300 \mathrm{kHz}$
Note: The manufacturer declares the worst case duty cycle is 28.05 ms per 100 ms . Duty cycle correction factor= $20 \log (28.05 \mathrm{~ms} / 100 \mathrm{~ms})=-11.04 \mathrm{~dB}$. Average readings in restricted band are calculated from peak readings with duty cycle correction factor.

Test Method: ANSI C63.10 (2013)
Temperature ( ${ }^{\circ} \mathrm{C}$ ): 24
Relative Humidity (\%): 30
Modification 1 was in place during testing.

Itron, Inc. WO\#: 104622 Sequence\#: 2 Date: 1/22/2021
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Horiz


```
-_Readings
    * QP Readings
    * Ambient
    1-15.247(d) / 15.209 Radiated Spurious Emissions
```

    O Peak Readings
    * Average Readings
    Software Version: 5.03.19
    Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | AN00314 | Loop Antenna | 6502 | $4 / 13 / 2020$ | $4 / 13 / 2022$ |
|  | ANP05281 | Attenuator | 1 B | $4 / 7 / 2020$ | $4 / 7 / 2022$ |
|  | ANP05198 | Cable-Amplitude <br> +15C to +45C (dB) | 8268 | $12 / 21 / 2020$ | $12 / 21 / 2022$ |
|  |  | AN01993 | Biconilog Antenna | CBL6111C | $6 / 11 / 2019$ |
| T1 | AN00786 | Preamp | $83017 A$ | $5 / 20 / 2020$ | $5 / 11 / 2021$ |
| T2 | AN00849 | Horn Antenna | 3115 | $3 / 17 / 2020$ | $3 / 17 / 2022$ |
| T3 | ANP06360 | Cable | L1-PNMNM-48 | $8 / 8 / 2019$ | $8 / 8 / 2021$ |
| T4 | ANP07246 | Cable | 32022-29094K- <br>  |  | $5 / 29 / 2020$ |
| T5 | AN03169 | High Pass Filter | HM1155-11SS | $5 / 8 / 2019$ | $5 / 29 / 2022$ |
|  | AN02869 | Spectrum Analyzer | E4440A | $8 / 3 / 2020$ | $8 / 8 / 2021$ |
| T6 | ANDCCF | Duty Cycle |  | $1 / 1 / 2021$ | $1 / 1 / 2025$ |
|  |  | Correction Factor |  |  |  |

Measurement Data: $\quad$ Reading listed by margin.
Test Distance: 3 Meters

| $\#$ Freq <br>   <br>  MHz | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~T} 5 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~T} 6 \\ & \mathrm{~dB} \\ & \hline \end{aligned}$ | $\begin{array}{r} \mathrm{T} 3 \\ \mathrm{~dB} \\ \hline \end{array}$ | T4 $\mathrm{dB}$ | Dist <br> Table | $\begin{gathered} \text { Corr } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \\ \hline \end{gathered}$ | $\begin{gathered} \text { Spec } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \end{gathered}$ | Margin $\mathrm{dB}$ | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 1 \text { 3707.250M } \\ & \text { Ave } \end{aligned}$ | 63.6 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 51.6 | 54.0 | -2.4 | Vert |
| $\wedge 3707.250 \mathrm{M}$ | 63.6 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 62.6 | 54.0 | +8.6 | Vert |
| $\begin{aligned} & 3 \text { 3660.000M } \\ & \text { Ave } \end{aligned}$ | 63.6 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 51.4 | 54.0 | -2.6 | Vert |
| $\wedge 3660.000 \mathrm{M}$ | 63.6 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 62.4 | 54.0 | +8.4 | Vert |
| $\begin{aligned} & 5 \text { 3611.900M } \\ & \text { Ave } \end{aligned}$ | 62.3 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -11.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 49.7 | 54.0 | -4.3 | Vert |
| $\wedge 3611.900 \mathrm{M}$ | 62.3 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 60.7 | 54.0 | +6.7 | Vert |
| $\begin{aligned} & 7 \text { 3707.150M } \\ & \text { Ave } \end{aligned}$ | 59.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 47.0 | 54.0 | -7.0 | Horiz |
| $\wedge 3707.150 \mathrm{M}$ | 59.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 58.0 | 54.0 | +4.0 | Horiz |
| $\begin{aligned} & 92780.517 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 61.4 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -11.0 \\ \hline \end{array}$ | +3.5 | +0.4 | +0.0 | 45.8 | 54.0 | -8.2 | Vert |
| $\wedge 2780.517 \mathrm{M}$ | 61.4 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 56.8 | 54.0 | +2.8 | Vert |
| $\begin{aligned} & 11 \text { 3660.017M } \\ & \text { Ave } \end{aligned}$ | 58.0 | $\begin{array}{r} -38.1 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 45.8 | 54.0 | -8.2 | Horiz |
| $\wedge 3660.017 \mathrm{M}$ | 58.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 56.8 | 54.0 | +2.8 | Horiz |
| $\begin{aligned} & 13 \text { 3611.900M } \\ & \text { Ave } \end{aligned}$ | 57.3 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -11.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 44.7 | 54.0 | -9.3 | Horiz |
| $\wedge 3611.900 \mathrm{M}$ | 57.3 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.6 | +0.0 | 55.7 | 54.0 | +1.7 | Horiz |
| $\begin{aligned} & 155418.033 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 51.4 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ -11.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 43.2 | 54.0 | -10.8 | Horiz |
| $\wedge 5418.033 \mathrm{M}$ | 51.4 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 54.2 | 54.0 | +0.2 | Horiz |
| $\begin{aligned} & 172709.033 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 58.0 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ -11.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 42.0 | 54.0 | -12.0 | Vert |
| $\wedge 2709.033 \mathrm{M}$ | 58.0 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} +29.5 \\ +0.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 53.0 | 54.0 | -1.0 | Vert |
| $\begin{aligned} & 195417.983 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 50.0 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ -11.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 41.8 | 54.0 | -12.2 | Vert |
| $\wedge$ 5417.983M | 50.0 | $\begin{array}{r} -37.2 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} +34.0 \\ +0.0 \\ \hline \end{array}$ | +5.1 | +0.7 | +0.0 | 52.8 | 54.0 | -1.2 | Vert |


| $21$ | $2744.867 \mathrm{M}$ | 56.8 | $-38.5$ | $+29.7$ | +3.4 | +0.4 | +0.0 | 41.0 | 54.0 | -13.0 | Vert |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge$ | 2744.867M | 56.8 | -38.5 | +29.7 | +3.4 | +0.4 | +0.0 | 52.0 | 54.0 | -2.0 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 23 | 2780.350M | 54.6 | -38.5 | +29.8 | +3.5 | +0.4 | +0.0 | 39.0 | 54.0 | -15.0 | Horiz |
|  | Ave |  | +0.2 | -11.0 |  |  |  |  |  |  |  |
| $\wedge$ | 2780.350M | 54.6 | -38.5 | +29.8 | +3.5 | +0.4 | +0.0 | 50.0 | 54.0 | -4.0 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 25 | 2744.983M | 52.3 | -38.5 | +29.7 | +3.4 | +0.4 | +0.0 | 36.5 | 54.0 | -17.5 | Horiz |
|  | Ave |  | +0.2 | -11.0 |  |  |  |  |  |  |  |
| $\wedge$ | 2744.983M | 52.3 | -38.5 | +29.7 | +3.4 | +0.4 | +0.0 | 47.5 | 54.0 | -6.5 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 27 | 2708.950M | 49.0 | -38.5 | +29.5 | +3.4 | +0.4 | +0.0 | 33.0 | 54.0 | -21.0 | Horiz |
|  | Ave |  | +0.2 | -11.0 |  |  |  |  |  |  |  |
| $\wedge 2708.950 \mathrm{M}$ |  | 49.0 | -38.5 | +29.5 | +3.4 | +0.4 | +0.0 | 44.0 | 54.0 | -10.0 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 29 | 1806.033M | 71.7 | -38.8 | +26.7 | +2.8 | +0.4 | +0.0 | 63.0 | 93.0 | -30.0 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 30 | 1853.600M | 68.4 | -38.8 | +27.0 | +2.9 | +0.4 | +0.0 | 60.1 | 93.0 | -32.9 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 31 | 1830.033M | 67.9 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 59.4 | 93.0 | -33.6 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 32 | 1853.533M | 63.6 | -38.8 | +27.0 | +2.9 | +0.4 | $+0.0$ | 55.3 | 93.0 | -37.7 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 33 | 1805.933M | 64.0 | -38.8 | +26.7 | +2.8 | +0.4 | +0.0 | 55.3 | 93.0 | -37.7 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 34 | 1830.017M | 63.6 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 55.1 | 93.0 | -37.9 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 35 | 5560.833M | 51.6 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 54.4 | 93.0 | -38.6 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 36 | 5490.167M | 51.4 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 54.3 | 93.0 | -38.7 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 37 | 5489.883M | 50.9 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 53.8 | 93.0 | -39.2 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 38 | 5560.783M | 48.2 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 51.0 | 93.0 | -42.0 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |

Test Location: CKC Laboratories Inc. • 110 N. Olinda Pl. • Brea, CA 92823 • 714-993-6112
Customer: Itron, Inc.
Specification: 15.247(d)/15.209 Radiated Spurious Emissions
Work Order \#: 104621 Date: 1/22/2021

Test Type: Radiated Emissions
Time: 13:23:43
Tested By:
Don Nguyen
Sequence\#: 12
Software:
EMITest 5.03.19

## Equipment Tested:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 3 |  | S/N |

## Support Equipment:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 3 |  | S/N |

## Test Conditions / Notes:

The EUT is placed on Styrofoam platform and powered from 3.6V fresh battery. The EUT is connected to a remote located laptop running CLI Tool ver.2.0.1.24.
EUT has fixed orientation per manufacture's specification.
Operating frequency range/ mode
902.4-927.6MHz, 400 kHz steps, 64 channels, 300k GFSK LV2/LV3

Frequency of measurement: $9 \mathrm{k}-9280 \mathrm{MHz}$
9 kHz to 150 kHz RBW $=0.2 \mathrm{kHz}, \mathrm{VBW}=0.6 \mathrm{kHz}$
150 kHz to 30 MHz RBW $=9 \mathrm{kHz}, V B W=27 \mathrm{kHz}$
$30-1000 \mathrm{MHz}, \mathrm{RBW}=120 \mathrm{kHz}, V B W=360 \mathrm{kHz}$
$1000-9280 \mathrm{MHz}, \mathrm{RBW}=1 \mathrm{MHz}, \mathrm{VBW}=3 \mathrm{MHz}$
-20 dBc limit, $\mathrm{RBW}=100 \mathrm{kHz}, \mathrm{VBW}=300 \mathrm{kHz}$
Note: The manufacturer declares the worst case duty cycle is 45 ms per 100 ms . Duty cycle correction factor= $20 \log (45 \mathrm{~ms} / 100 \mathrm{~ms})=-6.9 \mathrm{~dB}$. Average readings in restricted band are calculated from peak readings with duty cycle correction factor.

Test Method: ANSI C63.10 (2013)
Temperature ( ${ }^{\circ} \mathrm{C}$ ): 24
Relative Humidity (\%): 30
Modification 1 was in place during testing.

```
Itron, Inc. WO\#: 104621 Sequence\#: 12 Date: 1/22/2021
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert
```



O Peak Readings

* Average Readings
Software Version: $5 \cdot 03.19$

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | AN00314 | Loop Antenna | 6502 | $4 / 13 / 2020$ | $4 / 13 / 2022$ |
|  | ANP01911 | Cable-Amplitude <br> $+15 C ~ t o ~+45 C ~(d B) ~$ | RG214/U | $1 / 2 / 2020$ | $1 / 2 / 2022$ |
|  |  |  |  |  |  |
|  | ANP05281 | Attenuator | 1B | $4 / 7 / 2020$ | $4 / 7 / 2022$ |
|  | AN01993 | Biconilog Antenna | CBL6111C | $6 / 11 / 2019$ | $6 / 11 / 2021$ |
|  | AN03643 | Spectrum Analyzer | E4440A | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T1 | AN00786 | Preamp | $83017 A$ | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T2 | AN00849 | Horn Antenna | 3115 | $3 / 17 / 2020$ | $3 / 17 / 2022$ |
| T3 | ANP06360 | Cable | L1-PNMNM-48 | $8 / 8 / 2019$ | $8 / 8 / 2021$ |
| T4 | ANP07246 | Cable | $32022-29094 K-$ | $5 / 29 / 2020$ | $5 / 29 / 2022$ |
| T5 | AN03169 | High Pass Filter | HM1155-11SS | $5 / 8 / 2019$ | $5 / 8 / 2021$ |
| T6 | ANDCCF | Duty Cycle |  | $1 / 1 / 2021$ | $1 / 1 / 2025$ |
|  |  | Correction Factor |  |  |  |

Measurement Data: $\quad$ Reading listed by margin.
Test Distance: 3 Meters

| \#Freq  <br>  MHz | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~T} 5 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~T} 6 \\ & \mathrm{~dB} \end{aligned}$ | T3 dB | T4 <br> dB | Dist <br> Table | $\begin{gathered} \text { Corr } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \\ \hline \end{gathered}$ | $\begin{gathered} \text { Spec } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \end{gathered}$ | Margin dB | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 13660.517 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 61.3 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -7.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 53.1 | 54.0 | -0.9 | Vert |
| $\wedge 3660.517 \mathrm{M}$ | 61.3 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 60.1 | 54.0 | +6.1 | Vert |
| $\begin{aligned} & 3 \text { 3710.733M } \\ & \text { Ave } \end{aligned}$ | 60.2 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -7.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 52.2 | 54.0 | -1.8 | Vert |
| ^ 3710.733M | 60.2 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 59.2 | 54.0 | +5.2 | Vert |
| 5 2707.450M | 56.3 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} +29.5 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 51.3 | 54.0 | -2.7 | Vert |
| 6 2707.450M | 56.3 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} +29.5 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 51.3 | 54.0 | -2.7 | Vert |
| $\begin{aligned} & 7 \text { 3609.467M } \\ & \text { Ave } \end{aligned}$ | 59.8 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} +31.8 \\ -7.0 \\ \hline \end{array}$ | +4.0 | +0.6 | +0.0 | 51.2 | 54.0 | -2.8 | Vert |
| $\wedge 3609.467 \mathrm{M}$ | 59.8 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 58.2 | 54.0 | +4.2 | Vert |
| $\begin{aligned} & 9 \text { 3710.200M } \\ & \text { Ave } \end{aligned}$ | 56.4 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -7.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 48.4 | 54.0 | -5.6 | Horiz |
| $\wedge 3710.200 \mathrm{M}$ | 56.4 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 55.4 | 54.0 | +1.4 | Horiz |
| $\begin{aligned} & 113660.750 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 54.8 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -7.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 46.6 | 54.0 | -7.4 | Horiz |
| ^ 3660.750M | 54.8 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 53.6 | 54.0 | -0.4 | Horiz |
| $\begin{aligned} & 132783.017 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 58.1 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -7.0 \\ \hline \end{array}$ | +3.5 | +0.4 | +0.0 | 46.5 | 54.0 | -7.5 | Vert |
| ^ 2783.017M | 58.1 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 53.5 | 54.0 | -0.5 | Vert |
| $\begin{aligned} & 152745.533 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 57.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -7.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 45.8 | 54.0 | -8.2 | Vert |
| $\wedge 2745.533 \mathrm{M}$ | 57.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} +29.7 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 52.8 | 54.0 | -1.2 | Vert |
| $\begin{aligned} & 17 \text { 3609.300M } \\ & \text { Ave } \\ & \hline \end{aligned}$ | 52.9 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} +31.8 \\ -7.0 \\ \hline \end{array}$ | +4.0 | +0.6 | +0.0 | 44.3 | 54.0 | -9.7 | Horiz |
| ^ 3609.300M | 52.9 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | +4.0 | +0.6 | $+0.0$ | 51.3 | 54.0 | -2.7 | Horiz |
| $\begin{aligned} & 195414.267 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 45.3 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ -7.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 41.1 | 54.0 | -12.9 | Vert |
| $\wedge 5414.267 \mathrm{M}$ | 45.3 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \\ \hline \end{array}$ | +5.1 | +0.7 | +0.0 | 48.1 | 54.0 | -5.9 | Vert |
| $\begin{aligned} & 212783.083 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 49.5 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -7.0 \\ \hline \end{array}$ | +3.5 | +0.4 | +0.0 | 37.9 | 54.0 | -16.1 | Horiz |
| $\wedge 2783.083 \mathrm{M}$ | 49.5 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \\ \hline \end{array}$ | +3.5 | +0.4 | +0.0 | 44.9 | 54.0 | -9.1 | Horiz |


| 23 | $2745.467 \mathrm{M}$ <br> Ave | 49.6 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -7.0 \end{array}$ | +3.4 | +0.4 | $+0.0$ | 37.8 | 54.0 | -16.2 | Horiz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge$ | 2745.467M | 49.6 | -38.5 | +29.7 | +3.4 | +0.4 | +0.0 | 44.8 | 54.0 | -9.2 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 25 | 2707.183M | 46.0 | -38.5 | +29.5 | +3.4 | +0.4 | +0.0 | 34.0 | 54.0 | -20.0 | Horiz |
|  | Ave |  | +0.2 | -7.0 |  |  |  |  |  |  |  |
| $\wedge$ | 2707.183M | 46.0 | -38.5 | +29.5 | +3.4 | +0.4 | +0.0 | 41.0 | 54.0 | -13.0 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 27 | 1830.750M | 65.5 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 57.0 | 90.5 | -33.5 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 28 | 1804.667M | 64.9 | -38.8 | +26.7 | +2.8 | +0.4 | +0.0 | 56.2 | 90.5 | -34.3 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 29 | 1855.300M | 64.2 | -38.8 | +27.0 | +2.9 | +0.4 | +0.0 | 55.9 | 90.5 | -34.6 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 30 | 5564.883M | 50.8 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 53.6 | 90.5 | -36.9 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 31 | 5566.117M | 50.1 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 52.9 | 90.5 | -37.6 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 32 | 5490.650M | 49.8 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 52.7 | 90.5 | -37.8 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 33 | 1804.783M | 60.9 | -38.8 | +26.7 | +2.8 | +0.4 | +0.0 | 52.2 | 90.5 | -38.3 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 34 | 1855.117M | 60.0 | -38.8 | +27.0 | +2.9 | +0.4 | +0.0 | 51.7 | 90.5 | -38.8 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 35 | 5490.883M | 46.8 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 49.7 | 90.5 | -40.8 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 36 | 1830.383M | 57.7 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 49.2 | 90.5 | -41.3 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |

Test Location: CKC Laboratories Inc. • 110 N. Olinda Pl. • Brea, CA 92823 • 714-993-6112
Customer: Itron, Inc.
Specification: 15.247(d)/15.209 Radiated Spurious Emissions
Work Order \#: 104621 Date: 12/31/2020
Test Type: Radiated Emissions
Time: 10:39:01
Tested By:
Don Nguyen
Sequence\#: 13
Software:
EMITest 5.03.19

## Equipment Tested:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 3 |  | S/N |

Support Equipment:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 3 |  | S/N |

## Test Conditions / Notes:

The EUT is placed on Styrofoam platform and powered from 3.6 V fresh battery. The EUT is connected to a remote located laptop running CLI Tool ver.2.0.1.24.
EUT has fixed orientation per manufacture's specification.
Operating frequency range/ mode
$903-926.8 \mathrm{MHz}, 200 \mathrm{kHz}$ steps, 120 channels, 16384 OOK LV1
Frequency of measurement: $9 \mathrm{k}-9280 \mathrm{MHz}$
9 kHz to 150 kHz RBW $=0.2 \mathrm{kHz}, \mathrm{VBW}=0.6 \mathrm{kHz}$
150 kHz to 30 MHz RBW $=9 \mathrm{kHz}, V B W=27 \mathrm{kHz}$
$30-1000 \mathrm{MHz}, \mathrm{RBW}=120 \mathrm{kHz}, V B W=360 \mathrm{kHz}$
$1000-9280 \mathrm{MHz}, \mathrm{RBW}=1 \mathrm{MHz}, \mathrm{VBW}=3 \mathrm{MHz}$
-20 dBc limit, $\mathrm{RBW}=100 \mathrm{kHz}, \mathrm{VBW}=300 \mathrm{kHz}$
Note: The manufacturer declares the worst case duty cycle is 28.05 ms per 100 ms . Duty cycle correction factor= $20 \log (28.05 \mathrm{~ms} / 100 \mathrm{~ms})=-11.04 \mathrm{~dB}$. Average readings in restricted band are calculated from peak readings with duty cycle correction factor.

Test Method: ANSI C63.10 (2013)
Temperature ( ${ }^{\circ} \mathrm{C}$ ): 24
Relative Humidity (\%): 30
Modification 1 was in place during testing.

Itron, Inc. WO\#: 104621 Sequence\#: 13 Date: $12 / 31 / 2020$
15.247 (d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Vert


- Readings
$\times$ QP Readings
$\times \quad$ Ambient
$1-15.247$ (d) / 15.209 Radiated Spurious Emissions

O Peak Readings<br>* Average Readings<br>Software Version: 5.03:19

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | AN00314 | Loop Antenna | 6502 | $4 / 13 / 2020$ | $4 / 13 / 2022$ |
|  | ANP01911 | Cable-Amplitude <br> $+15 C ~ t o ~+45 C ~(d B) ~$ | RG214/U | $1 / 2 / 2020$ | $1 / 2 / 2022$ |
|  |  |  |  |  |  |
|  | ANP05281 | Attenuator | 1B | $4 / 7 / 2020$ | $4 / 7 / 2022$ |
|  | AN01993 | Biconilog Antenna | CBL6111C | $6 / 11 / 2019$ | $6 / 11 / 2021$ |
|  | AN03643 | Spectrum Analyzer | E4440A | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T1 | AN00786 | Preamp | $83017 A$ | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T2 | AN00849 | Horn Antenna | 3115 | $3 / 17 / 2020$ | $3 / 17 / 2022$ |
| T3 | ANP06360 | Cable | L1-PNMNM-48 | $8 / 8 / 2019$ | $8 / 8 / 2021$ |
| T4 | ANP07246 | Cable | $32022-29094 K-$ | $5 / 29 / 2020$ | $5 / 29 / 2022$ |
|  |  |  | High Pass Filter | HM1155-11SS | $5 / 8 / 2019$ |
| T5 | AN03169 | Duty Cycle |  | $1 / 1 / 2021$ | $5 / 8 / 2021$ |
| T6 | ANDCCF |  |  |  | $1 / 1 / 2025$ |
|  |  |  |  |  |  |

Measurement Data: $\quad$ Reading listed by margin.
Test Distance: 3 Meters

| \#Freq  <br>  MHz | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \text { T5 } \\ & \text { dB } \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~T} 6 \\ & \mathrm{~dB} \\ & \hline \end{aligned}$ | T3 dB | T4 dB | Dist <br> Table | $\begin{gathered} \text { Corr } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \\ \hline \end{gathered}$ | Spec $d B \mu V / m$ | Margin <br> dB | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 1 \text { 3660.000M } \\ & \text { Ave } \end{aligned}$ | 61.4 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 49.2 | 54.0 | -4.8 | Vert |
| $\wedge 3660.000 \mathrm{M}$ | 61.4 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 60.2 | 54.0 | +6.2 | Vert |
| $\begin{aligned} & 3 \text { 3707.200M } \\ & \text { Ave } \end{aligned}$ | 61.0 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 49.0 | 54.0 | -5.0 | Vert |
| $\wedge 3707.200 \mathrm{M}$ | 61.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 60.0 | 54.0 | +6.0 | Vert |
| $\begin{aligned} & 53612.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 60.1 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{gathered} \hline+31.8 \\ -11.0 \end{gathered}$ | +4.0 | +0.6 | +0.0 | 47.5 | 54.0 | -6.5 | Vert |
| $\wedge 3612.000 \mathrm{M}$ | 60.1 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 58.5 | 54.0 | +4.5 | Vert |
| $\begin{aligned} & 7 \text { 3707.183M } \\ & \text { Ave } \end{aligned}$ | 55.8 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} +32.2 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 43.8 | 54.0 | -10.2 | Horiz |
| $\wedge 3707.183 \mathrm{M}$ | 55.8 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 54.8 | 54.0 | +0.8 | Horiz |
| $\begin{aligned} & 95418.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 50.8 | $\begin{array}{r} \hline-37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} +34.0 \\ -11.0 \end{array}$ | +5. | +0.7 | +0.0 | 42.6 | 54.0 | -11.4 | Vert |
| $\wedge 5418.000 \mathrm{M}$ | 50.8 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 53.6 | 54.0 | -0.4 | Vert |
| $\begin{aligned} & 11 \text { 3659.983M } \\ & \text { Ave } \end{aligned}$ | 54.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 41.8 | 54.0 | -12.2 | Horiz |
| $\wedge 3659.983 \mathrm{M}$ | 54.0 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 52.8 | 54.0 | -1.2 | Horiz |
| $\begin{aligned} & 13 \text { 3612.042M } \\ & \text { Ave } \end{aligned}$ | 52.7 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -11.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 40.1 | 54.0 | -13.9 | Horiz |
| $\wedge 3612.042 \mathrm{M}$ | 52.7 | $\begin{array}{r} -38.1 \\ +0.1 \\ \hline \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.6 | +0.0 | 51.1 | 54.0 | -2.9 | Horiz |
| $\begin{aligned} & 155418.042 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 47.2 | $\begin{array}{r} -37.2 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+34.0 \\ -11.0 \\ \hline \end{array}$ | +5.1 | +0.7 | +0.0 | 39.0 | 54.0 | -15.0 | Horiz |
| $\wedge 5418.042 \mathrm{M}$ | 47.2 | $\begin{array}{r} \hline-37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 50.0 | 54.0 | -4.0 | Horiz |
| $\begin{aligned} & 172745.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 53.9 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -11.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 38.1 | 54.0 | -15.9 | Vert |
| $\wedge 2745.000 \mathrm{M}$ | 53.9 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 49.1 | 54.0 | -4.9 | Vert |
| $\begin{aligned} & 192780.400 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 53.7 | $\begin{array}{r} \hline-38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -11.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 38.1 | 54.0 | -15.9 | Vert |
| $\wedge 2780.400 \mathrm{M}$ | 53.7 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 49.1 | 54.0 | -4.9 | Vert |


| $\begin{aligned} & 212709.000 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 53.1 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ -11.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 37.1 | 54.0 | -16.9 | Vert |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\wedge 2709.000 \mathrm{M}$ | 53.1 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} +29.5 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 48.1 | 54.0 | -5.9 | Vert |
| $\begin{aligned} & 232780.383 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 50.8 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -11.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 35.2 | 54.0 | -18.8 | Horiz |
| ^ 2780.383M | 50.8 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \\ \hline \end{array}$ | +3.5 | +0.4 | +0.0 | 46.2 | 54.0 | -7.8 | Horiz |
| $\begin{aligned} & 252745.017 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 50.2 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -11.0 \end{array}$ | +3.4 | +0.4 | $+0.0$ | 34.4 | 54.0 | -19.6 | Horiz |
| $\wedge 2745.017 \mathrm{M}$ | 50.2 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 45.4 | 54.0 | -8.6 | Horiz |
| $\begin{gathered} 272709.042 \mathrm{M} \\ \text { Ave } \\ \hline \end{gathered}$ | 49.4 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.5 \\ -11.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 33.4 | 54.0 | -20.6 | Horiz |
| $\wedge 2709.042 \mathrm{M}$ | 49.4 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} +29.5 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 44.4 | 54.0 | -9.6 | Horiz |
| 29 1853.600M | 66.4 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+27.0 \\ +0.0 \\ \hline \end{array}$ | +2.9 | +0.4 | +0.0 | 58.1 | 89.4 | -31.3 | Vert |
| $30 \quad 1830.000 \mathrm{M}$ | 66.1 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+26.9 \\ +0.0 \\ \hline \end{array}$ | +2.8 | +0.4 | $+0.0$ | 57.6 | 89.4 | -31.8 | Vert |
| $31 \quad 1806.000 \mathrm{M}$ | 64.6 | $\begin{array}{r} -38.8 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+26.7 \\ +0.0 \end{array}$ | +2.8 | +0.4 | +0.0 | 55.9 | 89.4 | -33.5 | Vert |
| 325560.800 M | 52.2 | $\begin{array}{r} \hline-37.3 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.1 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 55.0 | 89.4 | -34.4 | Vert |
| 33 5490.000M | 50.8 | $\begin{array}{r} \hline-37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.1 \\ +0.0 \end{array}$ | +5.1 | +0.7 | +0.0 | 53.7 | 89.4 | -35.7 | Vert |

Test Location: CKC Laboratories Inc. • 110 N. Olinda Pl. • Brea, CA 92823 • 714-993-6112
Customer: Itron, Inc.
Specification: 15.247(d)/15.209 Radiated Spurious Emissions
Work Order \#: 104621 Date: 1/22/2021

Test Type: Radiated Emissions
Time: 14:03:04
Tested By:
Don Nguyen
Sequence\#: 14
Software:
EMITest 5.03.19

## Equipment Tested:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 3 |  | S/N |

Support Equipment:

| Device | Manufacturer | Model \# |
| :--- | :--- | :--- |
| Configuration 3 |  | S/N |

## Test Conditions / Notes:

The EUT is placed on Styrofoam platform and powered from 3.6 V fresh battery. The EUT is connected to a remote located laptop running CLI Tool ver.2.0.1.24.
EUT has fixed orientation per manufacture's specification.
Operating frequency range/ mode
$903-926.8 \mathrm{MHz}, 200 \mathrm{kHz}$ steps, 120 channels, 16384 OOK LV3
Frequency of measurement: $9 \mathrm{k}-9280 \mathrm{MHz}$
9 kHz to 150 kHz RBW $=0.2 \mathrm{kHz}, \mathrm{VBW}=0.6 \mathrm{kHz}$
150 kHz to 30 MHz RBW $=9 \mathrm{kHz}, V B W=27 \mathrm{kHz}$
$30-1000 \mathrm{MHz}, \mathrm{RBW}=120 \mathrm{kHz}, V B W=360 \mathrm{kHz}$
$1000-9280 \mathrm{MHz}, \mathrm{RBW}=1 \mathrm{MHz}, \mathrm{VBW}=3 \mathrm{MHz}$
-20 dBc limit, $\mathrm{RBW}=100 \mathrm{kHz}, \mathrm{VBW}=300 \mathrm{kHz}$
Note: The manufacturer declares the worst case duty cycle is 28.05 ms per 100 ms . Duty cycle correction factor= $20 \log (28.05 \mathrm{~ms} / 100 \mathrm{~ms})=-11.04 \mathrm{~dB}$. Average readings in restricted band are calculated from peak readings with duty cycle correction factor.

Test Method: ANSI C63.10 (2013)
Temperature ( ${ }^{\circ} \mathrm{C}$ ): 24
Relative Humidity (\%): 30
Modification 1 was in place during testing.

Itron, Inc. WO\#: 104621 Sequence\#: 14 Date: 1/22/2021
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Horiz


- Readings
$\times$ QP Readings
- Ambient

$1-15.247$ (d) $/ 15.209$ Radiated Spurious Emissions

O Peak Readings<br>* Average Readings<br>Software Version: 5.03:19

Test Equipment:

| ID | Asset \# | Description | Model | Calibration Date | Cal Due Date |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | AN00314 | Loop Antenna | 6502 | $4 / 13 / 2020$ | $4 / 13 / 2022$ |
|  | ANP01911 | Cable-Amplitude <br> $+15 C ~ t o ~+45 C ~(d B) ~$ | RG214/U | $1 / 2 / 2020$ | $1 / 2 / 2022$ |
|  |  |  |  |  |  |
|  | ANP05281 | Attenuator | 1B | $4 / 7 / 2020$ | $4 / 7 / 2022$ |
|  | AN01993 | Biconilog Antenna | CBL6111C | $6 / 11 / 2019$ | $6 / 11 / 2021$ |
|  | AN03643 | Spectrum Analyzer | E4440A | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T1 | AN00786 | Preamp | $83017 A$ | $5 / 20 / 2020$ | $5 / 20 / 2022$ |
| T2 | AN00849 | Horn Antenna | 3115 | $3 / 17 / 2020$ | $3 / 17 / 2022$ |
| T3 | ANP06360 | Cable | L1-PNMNM-48 | $8 / 8 / 2019$ | $8 / 8 / 2021$ |
| T4 | ANP07246 | Cable | $32022-29094 K-$ | $5 / 29 / 2020$ | $5 / 29 / 2022$ |
| T5 | AN03169 | High Pass Filter | HM1155-11SS | $5 / 8 / 2019$ | $5 / 8 / 2021$ |
| T6 | ANDCCF | Duty Cycle |  | $1 / 1 / 2021$ | $1 / 1 / 2025$ |
|  |  | Correction Factor |  |  |  |

Measurement Data: $\quad$ Reading listed by margin.
Test Distance: 3 Meters

| $\#$ Freq <br>   <br>  MHz | Rdng $\mathrm{dB} \mu \mathrm{V}$ | $\begin{aligned} & \mathrm{T} 1 \\ & \mathrm{~T} 5 \\ & \mathrm{~dB} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \\ & \mathrm{~T} 6 \\ & \mathrm{~dB} \\ & \hline \end{aligned}$ | $\begin{array}{r} \mathrm{T} 3 \\ \mathrm{~dB} \\ \hline \end{array}$ | T4 $\mathrm{dB}$ | Dist <br> Table | $\begin{gathered} \text { Corr } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \\ \hline \end{gathered}$ | $\begin{gathered} \text { Spec } \\ \mathrm{dB} \mu \mathrm{~V} / \mathrm{m} \\ \hline \end{gathered}$ | Margin $\mathrm{dB}$ | Polar <br> Ant |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 13707.133 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 65.2 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 53.2 | 54.0 | -0.8 | Vert |
| $\wedge 3707.133 \mathrm{M}$ | 65.2 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 64.2 | 54.0 | +10.2 | Vert |
| $\begin{aligned} & 3 \text { 3659.883M } \\ & \text { Ave } \end{aligned}$ | 65.3 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 53.1 | 54.0 | -0.9 | Vert |
| $\wedge 3659.883 \mathrm{M}$ | 65.3 | $\begin{array}{r} \hline-38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 64.1 | 54.0 | +10.1 | Vert |
| $\begin{aligned} & 53612.017 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 64.3 | $\begin{array}{r} -38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -11.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 51.7 | 54.0 | -2.3 | Vert |
| ^ 3612.017M | 64.3 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 62.7 | 54.0 | +8.7 | Vert |
| $\begin{aligned} & 7 \text { 2780.467M } \\ & \text { Ave } \end{aligned}$ | 63.7 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ -11.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 48.1 | 54.0 | -5.9 | Vert |
| $\wedge 2780.467 \mathrm{M}$ | 63.7 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.8 \\ +0.0 \end{array}$ | +3.5 | +0.4 | +0.0 | 59.1 | 54.0 | +5.1 | Vert |
| $\begin{aligned} & 93707.233 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 59.6 | $\begin{array}{r} -38.1 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} +32.2 \\ -11.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 47.6 | 54.0 | -6.4 | Horiz |
| ^ 3707.233M | 59.6 | $\begin{array}{r} -38.1 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+32.2 \\ +0.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 58.6 | 54.0 | +4.6 | Horiz |
| $\begin{aligned} & 112744.983 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 62.6 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.7 \\ -11.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 46.8 | 54.0 | -7.2 | Vert |
| $\wedge 2744.983 \mathrm{M}$ | 62.6 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.7 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 57.8 | 54.0 | +3.8 | Vert |
| $\begin{aligned} & 13 \text { 3659.883M } \\ & \text { Ave } \end{aligned}$ | 57.9 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ -11.0 \end{array}$ | +4.0 | +0.7 | +0.0 | 45.7 | 54.0 | -8.3 | Horiz |
| $\wedge 3659.883 \mathrm{M}$ | 57.9 | $\begin{array}{r} -38.1 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+32.0 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.7 | +0.0 | 56.7 | 54.0 | +2.7 | Horiz |
| $\begin{aligned} & 152708.867 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 61.2 | $\begin{array}{r} -38.5 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} \hline+29.5 \\ -11.0 \\ \hline \end{array}$ | +3.4 | +0.4 | +0.0 | 45.2 | 54.0 | -8.8 | Vert |
| $\wedge 2708.867 \mathrm{M}$ | 61.2 | $\begin{array}{r} -38.5 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+29.5 \\ +0.0 \end{array}$ | +3.4 | +0.4 | +0.0 | 56.2 | 54.0 | +2.2 | Vert |
| $\begin{aligned} & 17 \text { 3611.933M } \\ & \text { Ave } \end{aligned}$ | 55.6 | $\begin{array}{r} \hline-38.1 \\ +0.1 \end{array}$ | $\begin{array}{r} \hline+31.8 \\ -11.0 \end{array}$ | +4.0 | +0.6 | +0.0 | 43.0 | 54.0 | -11.0 | Horiz |
| $\wedge 3611.933 \mathrm{M}$ | 55.6 | $\begin{array}{r} -38.1 \\ +0.1 \\ \hline \end{array}$ | $\begin{array}{r} \hline+31.8 \\ +0.0 \\ \hline \end{array}$ | +4.0 | +0.6 | +0.0 | 54.0 | 54.0 | +0.0 | Horiz |
| $\begin{aligned} & 195418.050 \mathrm{M} \\ & \text { Ave } \end{aligned}$ | 51.2 | $\begin{array}{r} -37.2 \\ +0.2 \end{array}$ | $\begin{array}{r} \hline+34.0 \\ -11.0 \end{array}$ | +5.1 | +0.7 | $+0.0$ | 43.0 | 54.0 | $-11.0$ | Vert |
| $\wedge$ 5418.050M | 51.2 | $\begin{array}{r} -37.2 \\ +0.2 \\ \hline \end{array}$ | $\begin{array}{r} +34.0 \\ +0.0 \\ \hline \end{array}$ | +5.1 | +0.7 | +0.0 | 54.0 | 54.0 | +0.0 | Vert |


| $21$ | $\begin{aligned} & 15417.983 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ | 49.2 | $\begin{array}{r} \hline-37.2 \\ +0.2 \end{array}$ | $\begin{gathered} \hline+34.0 \\ -11.0 \end{gathered}$ | +5.1 | +0.7 | $+0.0$ | 41.0 | 54.0 | -13.0 | Horiz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ^ 5417.983M |  | 49.2 | -37.2 | +34.0 | +5.1 | +0.7 | +0.0 | 52.0 | 54.0 | -2.0 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 23 | 2780.400M | 53.9 | -38.5 | +29.8 | +3.5 | +0.4 | +0.0 | 38.3 | 54.0 | -15.7 | Horiz |
|  | Ave |  | +0.2 | -11.0 |  |  |  |  |  |  |  |
| ^ 2780.400M |  | 53.9 | -38.5 | +29.8 | +3.5 | +0.4 | +0.0 | 49.3 | 54.0 | -4.7 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
|  |  | 51.8 | -38.5 | +29.7 | +3.4 | +0.4 | +0.0 | 36.0 | 54.0 | -18.0 | Horiz |
|  |  |  | +0.2 | -11.0 |  |  |  |  |  |  |  |
|  | ^ 2744.833M | 51.8 | -38.5 | +29.7 | +3.4 | +0.4 | +0.0 | 47.0 | 54.0 | -7.0 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| $\begin{aligned} & 272709.050 \mathrm{M} \\ & \text { Ave } \\ & \hline \end{aligned}$ |  | 51.1 | -38.5 | +29.5 | +3.4 | +0.4 | +0.0 | 35.1 | 54.0 | -18.9 | Horiz |
|  |  |  | +0.2 | -11.0 |  |  |  |  |  |  |  |
|  | ^ 2709.050M | 51.1 | -38.5 | +29.5 | +3.4 | +0.4 | +0.0 | 46.1 | 54.0 | -7.9 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 29 | 1830.000M | 70.5 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 62.0 | 94.6 | -32.6 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 30 | 1806.000M | 69.5 | -38.8 | +26.7 | +2.8 | +0.4 | +0.0 | 60.8 | 94.6 | -33.8 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 31 | 1853.600M | 68.6 | -38.8 | +27.0 | +2.9 | +0.4 | +0.0 | 60.3 | 94.6 | -34.3 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 32 | 5560.667M | 52.9 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 55.7 | 94.6 | -38.9 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 33 | 1853.533M | 64.0 | -38.8 | +27.0 | +2.9 | +0.4 | +0.0 | 55.7 | 94.6 | -38.9 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 34 | 1805.950M | 63.8 | -38.8 | +26.7 | +2.8 | +0.4 | +0.0 | 55.1 | 94.6 | -39.5 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 35 | 1830.050M | 63.4 | -38.8 | +26.9 | +2.8 | +0.4 | +0.0 | 54.9 | 94.6 | -39.7 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 36 | 5490.133M | 51.0 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 53.9 | 94.6 | -40.7 | Vert |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 37 | 5560.717M | 50.6 | -37.3 | +34.1 | +5.1 | +0.7 | +0.0 | 53.4 | 94.6 | -41.2 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |
| 38 | 5490.017M | 50.3 | -37.2 | +34.1 | +5.1 | +0.7 | +0.0 | 53.2 | 94.6 | -41.4 | Horiz |
|  |  |  | +0.2 | +0.0 |  |  |  |  |  |  |  |

## Band Edge




| Band Edge Summary <br> WATER REMOTE - Configuration 2 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Operating Mode: Single Channel (Low and High) |  |  |  |  |  |  |
| Frequency <br> (MHz) | Modulation | Ant. Type | Field Strength <br> (dBuV/m @3m) | Limit <br> (dBuV/m @3m) | Results |  |
| 614 | OOK LV1 | PCB Trace | 40.7 | $<46$ | Pass |  |
| 902 | OOK LV1 | PCB Trace | 74.2 | $<88.2$ | Pass |  |
| 928 | OOK LV1 | PCB Trace | 74.1 | $<88.2$ | Pass |  |
| 960 | OOK LV1 | PCB Trace | 45.9 | $<54$ | Pass |  |
|  |  |  |  |  |  |  |
| 614 | OOK LV3 | PCB Trace | 40.4 | $<46$ | Pass |  |
| 902 | OOK LV3 | PCB Trace | 81.7 | $<93.0$ | Pass |  |
| 928 | OOK LV3 | PCB Trace | 77.9 | $<93.0$ | Pass |  |
| 960 | OOK LV3 | PCB Trace | 48.4 | $<54$ | Pass |  |
|  |  |  |  |  |  |  |
| 614 | GFSK LV3 | PCB Trace | 43.2 | $<46$ | Pass |  |
| 902 | GFSK LV3 | PCB Trace | 66.3 | $<87.6$ | Pass |  |
| 928 | GFSK LV3 | PCB Trace | 69.8 | $<87.6$ | Pass |  |
| 960 | GFSK LV3 | PCB Trace | 48.1 | $<54$ | Pass |  |

Band Edge Summary
WATER REMOTE --Configuration 2
Operating Mode: Hopping

| Frequency <br> $(\mathbf{M H z})$ | Modulation | Ant. Type | Field Strength <br> $(\mathrm{dBuV} / \mathrm{m} @ 3 \mathrm{~m})$ | Limit <br> $(\mathrm{dBuV} / \mathrm{m} @ 3 \mathrm{~m})$ | Results |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 614 | OOK LV1 | PCB Trace | 42.3 | $<46$ | Pass |
| 902 | OOK LV1 | PCB Trace | 74.4 | $<88.2$ | Pass |
| 928 | OOK LV1 | PCB Trace | 74.0 | $<88.2$ | Pass |
| 960 | OOK LV1 | PCB Trace | 45.7 | $<54$ | Pass |
|  |  |  |  |  |  |
| 614 | OOK LV3 | PCB Trace | 41.6 | $<46$ | Pass |
| 902 | OOK LV3 | PCB Trace | 81.5 | $<93.0$ | Pass |
| 928 | OOK LV3 | PCB Trace | 78.1 | $<93.0$ | Pass |
| 960 | OOK LV3 | PCB Trace | 48.7 | $<54$ | Pass |
|  |  |  |  |  |  |
| 614 | GFSK LV3 | PCB Trace | 43.2 | $<46$ | Pass |
| 902 | GFSK LV3 | PCB Trace | 65.4 | $<87.6$ | Pass |
| 928 | GFSK LV3 | PCB Trace | 69.6 | $<87.6$ | Pass |
| 960 | GFSK LV3 | PCB Trace | 47.6 | $<54$ | Pass |


| Band Edge Summary <br> PIT-Configuration 3 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Operating Mode: Single Channel (Low and High) |  |  |  |  |  |  |
| Frequency <br> (MHz) | Modulation | Ant. Type | Field Strength <br> (dBuV/m @3m) | Limit <br> (dBuV/m @3m) | Results |  |
| 614 | OOK LV1 | PCB Trace | 43.1 | $<46$ | Pass |  |
| 902 | OOK LV1 | PCB Trace | 76.7 | $<89.4$ | Pass |  |
| 928 | OOK LV1 | PCB Trace | 75.3 | $<89.4$ | Pass |  |
| 960 | OOK LV1 | PCB Trace | 48.6 | $<54$ | Pass |  |
|  |  |  |  |  |  |  |
| 614 | OOK LV3 | PCB Trace | 42.9 | $<46$ | Pass |  |
| 902 | OOK LV3 | PCB Trace | 80.8 | $<94.6$ | Pass |  |
| 928 | OOK LV3 | PCB Trace | 79.7 | $<94.6$ | Pass |  |
| 960 | OOK LV3 | PCB Trace | 47.9 | $<54$ | Pass |  |
|  |  |  |  |  |  |  |
| 614 | GFSK LV3 | PCB Trace | 41.2 | $<46$ | Pass |  |
| 902 | GFSK LV3 | PCB Trace | 68.7 | $<90.5$ | Pass |  |
| 928 | GFSK LV3 | PCB Trace | 69.7 | $<90.5$ | Pass |  |
| 960 | GFSK LV3 | PCB Trace | 48.3 | $<54$ | Pass |  |

## Band Edge Summary <br> PIT-Configuration 3

Operating Mode: Hopping

| Frequency <br> $(\mathbf{M H z})$ | Modulation | Ant. Type | Field Strength <br> $(\mathrm{dBuV} / \mathrm{m} @ 3 \mathrm{~m})$ | Limit <br> $(\mathrm{dBuV} / \mathrm{m} @ 3 \mathrm{~m})$ | Results |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 614 | OOK LV1 | PCB Trace | 41.2 | $<46$ | Pass |  |
| 902 | OOK LV1 | PCB Trace | 76.7 | $<89.4$ | Pass |  |
| 928 | OOK LV1 | PCB Trace | 75.3 | $<89.4$ | Pass |  |
| 960 | OOK LV1 | PCB Trace | 46.2 | $<54$ | Pass |  |
|  |  |  |  |  |  |  |
| 614 | OOK LV3 | PCB Trace | 42.6 | $<46$ | Pass |  |
| 902 | OOK LV3 | PCB Trace | 75.8 | $<94.6$ | Pass |  |
| 928 | OOK LV3 | PCB Trace | 79.8 | $<94.6$ | Pass |  |
| 960 | OOK LV3 | PCB Trace | 48.5 | $<54$ | Pass |  |
|  |  |  |  |  |  |  |
| 614 | GFSK LV3 | PCB Trace | 40.9 | $<46$ | Pass |  |
| 902 | GFSK LV3 | PCB Trace | 68.1 | $<90.5$ | Pass |  |
| 928 | GFSK LV3 | PCB Trace | 70.0 | $<90.5$ | Pass |  |
| 960 | GFSK LV3 | PCB Trace | 47.2 | $<54$ | Pass |  |

## Band Edge Plots, Configuration 1




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## Band Edge Plots, Configuration 2













| Band Edge, 00 KLV 3 , config2, hi CH, restricted band |
| :--- |
| Ref Level $96.99 \mathrm{~dB} \mu \mathrm{~V}$ ATTEN 0 dB |
| RES BW: 120.0 kHz VID BW: 360.0 kHz SWP: 20.0 msec |
| Marker: $960.01 \mathrm{MHz} \quad 12.0247 \mathrm{~dB} \mu \mathrm{~V}$ |


15.247 (d) / 15.209 Radiated Spurious Emissions









