

6a.3 Radiated Spurious Emissions -- Pursuant 47 CFR 2.1053, 2.1057, 90.210(g)(3), 90.691(a)(2)

6a3.1 800-900 Mhz Band

FCC Limits

-Per 90.210(g)(3) and 90.691(a)(2), radiated spurious emissions shall be attenuated below the maximum level of emission of the carrier frequency in accordance with the following formula:

$$\text{Spurious attenuation in dB} = 43 + 10 \log_{10} (P)$$

(Thus the effective limit is -13 dBm for any transmitter power level).

NOTE 1: Spurious emissions are dependent on the linearity of the Power Amplifier and are independent of modulation type or TDM interleaving. Thus emissions were tested with the radio set to Quad-16QAM at both maximum and minimum radio output power settings.

NOTE 2: An asterisk () in the data indicates the spurious emission was less than -33 dBm or could not be detected due to noise limitations or ambients.*

NOTE 3: Spurious emission levels were measured with the non-detachable antenna mounted on the radio product, as in intended use. Measurement setup is described in Exhibit 7.3.

NOTE 4: Spurious emissions are dependent on the linearity of the Power Amplifier (U516) and are independent of modulation type or TDM interleaving. Thus, for the Land Mobile Band, emissions were tested with the radio set to Quad-16QAM.

Max Tx Power

806.0625 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1612.1250 | -13 | <-36 dBm | <-36 dBm |
| 2418.1875 | -13 | <-36 dBm | <-36 dBm |
| 3224.2500 | -13 | <-36 dBm | <-36 dBm |
| 4030.3125 | -13 | * | * |
| 4836.3750 | -13 | <-36 dBm | <-36 dBm |
| 5642.4375 | -13 | * | * |
| 6448.5000 | -13 | * | * |
| 7254.5625 | -13 | * | * |
| 8060.6250 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-3 . Spurious emissions at 806.0625

Max Tx Power

813.5625 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|---|
| 1627.1250 | -13 | <-36 dBm | <-36 dBm |
| 2440.6875 | -13 | * | <-36 dBm |
| 3254.2500 | -13 | <-36 dBm | <-36 dBm |
| 4067.8125 | -13 | * | * |
| 4881.3750 | -13 | <-36 dBm | <-36 dBm |
| 5694.9375 | -13 | * | * |
| 6508.5000 | -13 | * | * |
| 7322.0625 | -13 | * | * |
| 8135.6250 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-4. Spurious emissions at 813.5625

Max Tx Power

820.9875 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|---|
| 1641.9750 | -13 | <-36 dBm | <-36 dBm |
| 2462.9625 | -13 | * | * |
| 3283.9500 | -13 | <-36 dBm | <-36 dBm |
| 4104.9375 | -13 | <-36 dBm | * |
| 4925.9250 | -13 | <-36 dBm | <-36 dBm |
| 5746.9125 | -13 | * | * |
| 6567.9000 | -13 | * | * |
| 7388.8875 | -13 | * | * |
| 8209.8750 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-5. Spurious emissions at 820.9875

Max Tx Power

824.9875 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1649.9750 | -13 | <-36 dBm | <-36 dBm |
| 2474.9625 | -13 | <-36 dBm | <-36 dBm |
| 3299.9500 | -13 | <-36 dBm | <-36 dBm |
| 4124.9375 | -13 | <-36 dBm | <-36 dBm |
| 4949.9250 | -13 | * | * |
| 5774.9125 | -13 | * | * |
| 6599.9000 | -13 | * | * |
| 7424.8875 | -13 | * | * |
| 8249.8750 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-6. Spurious emissions at 824.9875

Max Tx Power

896.01875 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1792.0375 | -13 | <-36 dBm | -34.62 |
| 2688.0563 | -13 | <-36 dBm | <-36 dBm |
| 3584.0750 | -13 | <-36 dBm | <-36 dBm |
| 4480.0938 | -13 | <-36 dBm | * |
| 5376.1125 | -13 | * | * |
| 6272.1313 | -13 | * | * |
| 7168.1500 | -13 | * | * |
| 8064.1688 | -13 | * | * |
| 8960.1875 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-7. Spurious emissions at 896.01875 MHz

Max Tx Power

900.98125 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1801.9625 | -13 | <-36 dBm | -33.34 |
| 2702.9438 | -13 | <-36 dBm | <-36 dBm |
| 3603.9250 | -13 | <-36 dBm | <-36 dBm |
| 4504.9063 | -13 | <-36 dBm | <-36 dBm |
| 5405.8875 | -13 | * | * |
| 6306.8688 | -13 | * | * |
| 7207.8500 | -13 | * | * |
| 8108.8313 | -13 | * | * |
| 9009.8125 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-8. Spurious emissions at 900.98125 MHz

Low Tx Power

806.0625 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1612.1250 | -13 | <-36 dBm | <-36 dBm |
| 2418.1875 | -13 | * | * |
| 3224.2500 | -13 | <-36 dBm | <-36 dBm |
| 4030.3125 | -13 | * | * |
| 4836.3750 | -13 | * | * |
| 5642.4375 | -13 | * | * |
| 6448.5000 | -13 | * | * |
| 7254.5625 | -13 | * | * |
| 8060.6250 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-9. Spurious emissions at 806.0625 (TX: Low power 30 dB cutback)

Low Tx Power

813.5625 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1627.1250 | -13 | <-36 dBm | <-36 dBm |
| 2440.6875 | -13 | * | * |
| 3254.2500 | -13 | <-36 dBm | * |
| 4067.8125 | -13 | * | * |
| 4881.3750 | -13 | * | * |
| 5694.9375 | -13 | * | * |
| 6508.5000 | -13 | * | * |
| 7322.0625 | -13 | * | * |
| 8135.6250 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-10. Spurious emissions at 813.5625

Low Tx Power

820.9875 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1641.9750 | -13 | <-36 dBm | <-36 dBm |
| 2462.9625 | -13 | * | * |
| 3283.9500 | -13 | * | <-36 dBm |
| 4104.9375 | -13 | * | * |
| 4925.9250 | -13 | * | * |
| 5746.9125 | -13 | * | * |
| 6567.9000 | -13 | * | * |
| 7388.8875 | -13 | * | * |
| 8209.8750 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-11. Spurious emissions at 820.9875

Low Tx Power

824.9875 MHz

Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1649.9750 | -13 | <-36 dBm | <-36 dBm |
| 2474.9625 | -13 | * | * |
| 3299.9500 | -13 | * | <-36 dBm |
| 4124.9375 | -13 | * | * |
| 4949.9250 | -13 | * | * |
| 5774.9125 | -13 | * | * |
| 6599.9000 | -13 | * | * |
| 7424.8875 | -13 | * | * |
| 8249.8750 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-12. Spurious emissions at 824.9875

896.01875 MHz Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1792.0375 | -13 | <-36 dBm | <-36 dBm |
| 2688.0563 | -13 | * | * |
| 3584.0750 | -13 | <-36 dBm | * |
| 4480.0938 | -13 | * | * |
| 5376.1125 | -13 | * | * |
| 6272.1313 | -13 | * | * |
| 7168.1500 | -13 | * | * |
| 8064.1688 | -13 | * | * |
| 8960.1875 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-13. Spurious emissions at 896.01875 MHz (TX: Low power 30 dB cutback)

900.98125 MHz Channel Spacing 25kHz | S/N 364VFE4G5B

| Frequency (MHz) | FCC Failing Limit (dBm) | Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm) | Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm) |
|-----------------|-------------------------|---|--|
| 1801.9625 | -13 | <-36 dBm | <-36 dBm |
| 2702.9438 | -13 | <-36 dBm | <-36 dBm |
| 3603.9250 | -13 | <-36 dBm | <-36 dBm |
| 4504.9063 | -13 | * | * |
| 5405.8875 | -13 | * | * |
| 6306.8688 | -13 | * | * |
| 7207.8500 | -13 | * | * |
| 8108.8313 | -13 | * | * |
| 9009.8125 | -13 | * | * |

*Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

Table 6a-14. Spurious emissions at 900.98125 MHz (TX: Low power 30 dB cutback)