

Exhibit 7 MPE Data

Exhibit 7 contains the calculations showing that the CELL-TRAC™ II complies with the limits for maximum permissible exposure (MPE) per OET Bulletin 65.

The maximum effective radiated power (ERP) was measured to be 36.5 dBm at the low channel see Exhibit 9 Intertek Testing Services NA Inc. Test Report..

1. Convert ERP from dBm to milliwatts (mW):

$$\text{dBm} = 10 \text{ LOG}(\text{Watts} * 1000)$$

$$\text{ERP(mW)} = \text{INV-LOG}(36.5\text{dBm}/10) = 4467 \text{ mW}$$

2. Equation 5 from OET Bulletin 65:

$$S = \frac{\text{EIRP}}{4\pi R^2} = \frac{1.64 \text{ ERP}}{4\pi R^2} = \frac{0.41 \text{ ERP}}{\pi R^2} \quad (5)$$

3. Using Equation 5 calculate power density level of exposure, S_{exp} :

$$S_{\text{exp}} = (0.41 * 4467 \text{ mW}) / (3.1416 * (20\text{cm})^2) = 1.46 \text{ mW/cm}^2$$

4. The maximum permissible exposure (MPE) limit per OET Bulletin 65, Appendix A, Table 1B the Power Density (S) for General Population/Uncontrolled Exposure is:

$$S_{\text{limit}} = f/1500, \quad f = \text{frequency in MHz}, \quad f_{\text{max}} = 849 \text{ MHz}$$

$$S_{\text{limit}} = 849/1500 = 0.566 \text{ mW/cm}^2$$

5. The CELL-TRAC™ II can make up to one call every hour and the call will be for less than 5 minutes (30 seconds average), t_{exp} . Using Equation 2 calculate the allowable time of exposure t_{exp} , and the average power density level of exposure, S_{avg} :

$$S_{\text{exp}} t_{\text{exp}} = S_{\text{limit}} t_{\text{avg}} \quad (2), \text{ for 1 to n calls in 30 minutes. Use } n = 1.$$

$$1.46 \text{ mW/cm}^2 * t_{\text{exp}} = 0.566 \text{ mW/cm}^2 * 30 \text{ minutes}$$

$$t_{\text{exp}} = (0.566 \text{ mW/cm}^2 * 30 \text{ minutes}) / 1.46 \text{ mW/cm}^2 = 11.6 \text{ minutes} = t_{\text{exp}}$$

$$S_{\text{avg}} = (1.46 \text{ mW/cm}^2 * 5 \text{ minutes}) / 30 \text{ minutes} = 0.25 \text{ mW/cm}^2 = S_{\text{avg}}$$

The average power density level of exposure, $S_{\text{avg}} = 0.25 \text{ mW/cm}^2$, is less than the MPE limit, $S_{\text{limit}} = 0.566 \text{ mW/cm}^2$, thus showing that the requirements of CFR 47 Part 2 Section 2.1091 were met.