



July 10, 2012

Attn: Application Examiner, Reviewing Engineer

The maximum TX output power of the Spectrum CELL Path1/HP-PCS Path 1 MRAU from the EUT antenna port for the CELL band is 28.47 dBm. The maximum gain antenna that could be for use with the EUT has a gain of 6.30 dBi.

From the following equations:

Peak Output of EUT at antenna Connector (dBm) + Gain of Antenna (dBd) = Peak TX Power (dBm) ERP

$10 * \text{Log}_{10}(\text{Peak TX Power} * E^3 \text{ Watts}) = \text{Peak TX Power (dBm) ERP}$

$28.47 \text{ dBm} + 6.30 \text{ dBi} = 34.77 \text{ dBm EIRP}$

$34.77 \text{ dBm EIRP} = 3.0 \text{ Watts EIRP}$

To convert to EIRP use the relation:  $\text{EIRP} = \text{ERP} * 1.64$ . ( $2.55 \text{ EIRP} = 1.56 \text{ ERP}$ )

To convert to dBi to dBd use the relation:  $\text{dBi} = \text{dBd} + 2.14$ . ( $7.14 \text{ dBi} = 5.0 \text{ dBd}$ )

$\text{Power Density} = \text{EIRP(mW)} / (4 * \pi * r^2)$

$0.1492 \text{ mW/cm}^2 = (703.0)(4.266) / (4 * \pi * 40^2)$

Per OET 65:

Maximum Permissible Exposure is  $\text{Freq. (MHz)} / 1500 = \text{MPE mW/cm}^2$

$881.5 \text{ MHz} / 1500 = 0.5876 \text{ mW/cm}^2$

In addition, the following statement is in our installation manual:

To comply with Maximum Permissible Exposure (MPE) requirements, antennas must be installed to provide at least 40 centimeters of separation from all persons per FCC 47CFR, Part 2.1091 and IC RSS-102, Section 2.5.2.

Sincerely,

A handwritten signature in black ink, appearing to read 'Joshua J. Wittman', is written over a horizontal line.

Joshua J. Wittman

Compliance Engineer

Tele: 952 403-8322

Fax: 952 403-8858

Email: [joshua.wittman@te.com](mailto:joshua.wittman@te.com)