



September 5, 2012

Attn: Application Examiner, Reviewing Engineer

The maximum TX output power of the Spectrum 700 Path1/HP-AWS Path 1 SRAU from the EUT antenna port for the 700 path 1 band is 21.10 dBm. The maximum gain antenna that could be for use with the EUT has a gain of 13.67 dBi.

From the following equations:

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

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

21.10 dBm + 13.67 dBi = 34.77 dBm EIRP

34.77 dBm EIRP = 3.0 Watts EIRP

To convert to EIRP use the relation: EIRP = ERP \times 1.64. (2.55 EIRP = 1.56 ERP)

To convert to dBi to dBd use the relation: dBi = dBd + 2.14. (7.14 dBi = 5.0 dBd)

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

$0.1491 \text{ mW/cm}^2 = (128.8)(23.28) / (4 * \pi * 40^2)$

Per OET 65:

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

$737.0 \text{ MHz} / 1500 = 0.4913 \text{ mW/cm}^2$

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

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