



July 30, 2012

Attn: Application Examiner, Reviewing Engineer

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The maximum TX output power of the Spectrum AWS Path1/AWS Path 2 MIMO SRAU P+ from the AWS EUT antenna port 1 is 20.12 dBm. The maximum gain antenna that could be for use with the EUT has a gain of 14.65 dBi.

From the following equations:

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

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

20.12 dBm + 14.65 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)

Per OET 65:

Maximum Permissible Exposure is 1.0 mW/cm² over 30 minutes. (1500 MHz - 100,000 MHz)

The following equations determine the distance from the antenna that the power density is \leq 1.0 mW/cm².

3.0 Watts EIRP = $3.0 * 10^3$ mWatts EIRP

$1.0 \text{ mW/cm}^2 = 3.0 * 10^3 \text{ mW} / (4 * \pi * r^2)$

$r = \text{SQR}(3.0 * 10^3 / 4 * \pi 1.0)$

r = 15.45 cm or 0.1545 Meters

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 20 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.

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