

U.S. Technologies, Inc  
Rev: 040103  
Issue Date: August 17,2007  
Model:ZMN2400HP

FCC Part 15C  
Report Number: 07-0207  
Customer: Cirronet Corporation

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# RF EXPOSURE

**5.1 RF Safety Requirements to 2.1091 for Mobile Transmitters**

The unit under evaluation has 3 possible Antennas. Cirronet Corporation calculated the MPE emission values for a ZMN2400HP with the Corner Reflector, which had a gain of 14 dBi. They used the formula shown in OET Bulletin 65 and calculated the minimum distance between antenna and unsuspecting user as 20 cm.

**5.1 RF Safety Requirements to 2.1091 for Mobile Transmitters – Cont.**

Power Output

The EUT's maximum expected output power as shown in Section 2.6 was

Frequency of Fundamental (MHz)	Measurement (dBm)*	Measurement (mW)*	FCC Limit (Watt)
2405.28	16.63	46.02	1.0
2439.35	15.51	35.56	1.0
2475.28	14.62	28.97	1.0

**The maximum EIRP expected is with a +14 dBi gain Corner Reflector. This would yield a maximum EIRP of 30.63 dBm.**

$\text{Antilog}(30.63 \text{ dBm}/10) = 1156.1 \text{ mW}$

MPE Calculations

The limits for this unit (uncontrolled exposure) are 1.0 mW/cm<sup>2</sup>. Taking the RF Density Field Equation:

$S = (\text{EIRP in mW}) / (4\pi R^2)$  and solving for Density S at 20 cm.

$S = 1156.1 / 4\pi 20^2$

$S = 1156.1 / 5026.55$

$S = 0.23 \text{ mW/cm}^2$

All manual instructions will specify 20 cm for all installations.