

U.S. Technologies, Inc  
Rev: 040103  
Issue Date: August 19,2007  
Model:ZMN2430HP

FCC Part 15C  
Report Number: 07-0210  
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 ZMN2430HP 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)
2405.43	17.80	60.3	1.0
2439.45	16.95	49.6	1.0
2474.43	15.85	38.4	1.0

**The maximum EIRP expected is with a +14 dBi gain Corner Reflector. This would yield a maximum EIRP of 31.8 dBm.**

Antilog (31.8 dBm/10) = 1513.56 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.

$$S = 1513.56 / 4\pi 20^2$$

$$S = 1513.58 / 5026.55$$

$$S = 0.30 \text{ mW/cm}^2$$

All manual instructions will specify 20 cm for all installations.