



Excellence in Compliance Testing

Certification Exhibit

**FCC ID: HSW-XDM2140
IC: 4492A-XDM2140**

**FCC Rule Part: 15.247
IC Radio Standards Specification: RSS-210**

ACS Report Number: 08-0352 - 15C

Manufacturer: RFM / Cirronet Inc.
Model: XDM2140

RF Exposure

General Information:

Applicant: RFM/Cirronet Inc.
 ACS Project: 08-0352
 Device Category: Mobile
 Environment: General Population/Uncontrolled Exposure

Technical Information: Monopole Antenna

Antenna Type: Monopole
 Antenna Gain: 9dBi
 Maximum Transmitter Conducted Power: 7.17
 Maximum System EIRP: 16.17 dBm, 41.4 mW
 Exposure Conditions: Greater than 20 centimeters

Technical Information: Patch Antenna

Antenna Type: Patch
 Antenna Gain: 12dBi
 Maximum Transmitter Conducted Power: 7.17
 Maximum System EIRP: 19.17 dBm, 82.6 mW
 Exposure Conditions: Greater than 20 centimeters

MPE Calculation

The Power Density (mW/cm²) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Calculations in the table below were done with the highest gain antenna (12dBi) provided in this application.

MPE Calculator for Mobile Equipment Limits for General Population/Uncontrolled Exposure*							
Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/Cm ²)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm ²)
2405	7.17	1.00	5.21	12	15.849	20	0.016

Installation Guidelines

The installation manual should contain text similar to the following advising how to install the equipment to maintain compliance with the FCC RF exposure requirements:

RF Exposure

In accordance with FCC requirements of human exposure to radio frequency fields, the radiating element shall be installed such that a minimum separation distance of 20 centimeters will be maintained.

Conclusion

This device complies with the MPE requirements by providing adequate separation between the device, any radiating structure and the general population.