

FCC Part 24E Transmitter Certification

Test Report

FCC ID: DNY020MCELL1900

FCC Rule Part: CFR 47 Part 24 Subpart E

ACS Report Number: 06-0347-24E

Manufacturer: EMS Wireless
Equipment Type: PCS Bi-Directional Repeater
Tradename: MirrorCell[®] II
Model: CDM1912-743

RF Exposure

General Information:

Applicant: EMS Technologies, Inc.
 ACS Project: 06-0347
 FCC ID: DNY020MCELL1900
 Device Category: Fixed
 Exposure Conditions: Uncontrolled/General Population

Technical Information:**UPLINK:**

Antenna Type: Yagi
 Antenna Gain Maximum: 15.1dBi
 Max Transmitter Output Power: 29.64dBm
 Max System EIRP: 44.74dBm / 29.8W
 Operating Configuration: Fixed

DOWNLINK:

Antenna Type: Panel
 Antenna Gain Maximum: 7.5dBi
 Max Transmitter Output Power: 43.17dBm
 Max System EIRP: 50.67dBm / 117W
 Operating Configuration: Fixed

NOTE: Multiple antennas are available for both the uplink and downlink applications. Listed above are antennas with the highest gain.

MPE Calculation

The Power Density (mW/cm^2) is calculated as follows:

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

Where:

S = power density (in appropriate units, e.g. mW/cm^2)

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 were performed at the frequencies with the highest output power as determined during testing.

Maximum Permissible Exposure (MPE) 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)	Configuration
1851.25	29.64	1.00	920.45	15.1	32.359	49	0.987	Uplink
1989.92	43.17	1.00	20749.14	7.5	5.623	97	0.987	Downlink

Installation Guidelines

End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.