Excellence in Compliance Testing

Certification Exhibit

FCC ID: R7PEG1R1S1

FCC Rule Part: 15.247

ACS Report Number: 09-0075-15C

Manufacturer: Cellnet Technology, Inc.
Model: Gridstream Focus AX Integrated

RF Exposure

General Information:

Applicant: Cellnet Technology, Inc.
ACS Project: 09-0075
Device Category: Mobile
Environment: General Population/Uncontrolled Exposure

Technical Information 900 Radio:

Antenna Type: Inverted F
Antenna Gain: 5 dBi
Maximum Transmitter Conducted Power: 27.50
Maximum System EIRP: 32.50 dBm, 1778 mW
Exposure Conditions: Greater than 20 centimeters

Technical Information 2400 Zigbee Radio:

Antenna Type: Inverted F
Antenna Gain: 5 dBi
Maximum Transmitter Conducted Power: 20.27
Maximum System EIRP: 25.27 dBm, 336 mW
Exposure Conditions: Greater than 20 centimeters

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/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)

MPE Calculator for Mobile Equipment Limits for General Population/Uncontrolled Exposure*							
Transmit Frequency (MHz)	**Radio Power (dBm)**	**Power Density Limit (mW/Cm2)**	**Radio Power (mW)**	**Antenna Gain (dBi)**	**Antenna Gain (mW eq.)**	**Distance (cm)**	**Power Density (mW/cm^2)**
902.1	27.5	0.60	562.34	5	3.162	20	0.354
2445	20.27	1.00	106.41	5	3.162	20	0.067

Summation of Power Densities – Simultaneous Transmissions

This device contains multiple transmitters which can operate simultaneously and therefore the maximum RF exposure is determined by the summation of power densities. For the sake of providing the worst case data, the highest power density from the two transmitters will be applied for the calculations. The maximum power density as calculated by a summation of power densities for each simultaneous transmission combination as follows:

900MHz Radio: 0.354 (mW/cm^2)
2.4GHz Zigbee: 0.067 (mW/cm^2)
TOTAL: **0.421 (mW/cm^2)**

Installation Guidelines:

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

"RF Exposure (Intentional Radiators Only)
In accordance with FCC requirements of human exposure to radiofrequency fields, the radiating element shall be installed such that a minimum separation distance of 20cm is maintained from the general population."

Conclusion:

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