Excellence in Compliance Testing

Certification Exhibit

FCC ID: S85-DAS900
IC: 10899A-DAS900

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

ACS Project Number: 12-0534

Manufacturer: Channel D Solutions, Inc.
Model: DAS-900

RF Exposure

General Information:

Applicant: Channel D Solutions, Inc.
Device Category: Mobile
Environment: General Population/Uncontrolled Exposure

Technical Information:

Antenna Type / Gain: TerraWave Model M202020R10007 Dipole / 2 dBi
TerraWave Model M3030035O11206 Ceiling Mount Omni / 3.5 dBi
Max Directional Gain: 3.5 dBi + 10*Log(8) = 12.53 dBi
Max Conducted Power: 21.05 dBm, 127 mW
Max System EIRP: 33.58 dBm, 2280 mW
Exposure Conditions: Greater than 20 centimeters

Note: The directional gain was calculated based on FCC KDB 662911 D01 Multiple Transmitter Output v01r02 as worst case, assuming (8) correlated outputs. However, in a normal operating configuration the antennas cannot be installed such that the patterns overlap. As worst case, even though not achievable for system operation, the directional gain calculation and maximum EIRP calculation were based collocated correlated transmissions.

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)**
914.61	21.05	0.61	127.43	12.53	17.906	20	0.454

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.