

Certification Exhibit

**FCC ID: R4N-AW2400MR
IC: 5303A-AW2400MR**

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

ACS Project Number: 14-0082

**Manufacturer: Avalan Wireless Systems Inc.
Model: AW2400MR**

RF Exposure

General Information:

Applicant: Avalan Wireless Systems Inc.
 Device Category: Mobile
 Environment: General Population/Uncontrolled Exposure

Technical Information:

Antenna Type / Gain: Omni-Directional (Center fed Collinear Dipole Array) / 15dBi
 Yagi / 15dBi
 Panel / 19dBi* (Aggregated gain 17.8dBi.)
 Maximum Transmitter Conducted Power: 18.2 dBm, 66.1 mW
 Maximum System EIRP: 36.0 dBm, 3981.1 mW
 Exposure Conditions: Greater than 20 centimeters

*NOTE: Professional installation required using a minimum cable length as to provide a minimum attenuation of 1.2 dB per the manufacturer installation instructions, leading to a maximum EIRP and aggregated gain of 36 dBm and 17.8 dBi, respectively.

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)

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)
2417	18.2	1.00	66.07	17.8	60.256	20	0.792

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.