Excellence in Compliance Testing

Certification Exhibit

FCC ID: R4N-AW900MR
IC: 5303A-AW900MR

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

ACS Project Number: 13-2161

Manufacturer: AvaLAN Wireless Systems
Model: AW900mTR

RF Exposure

General Information:

Applicant: AvaLAN Wireless Systems
ACS Project: 13-2161
Device Category: Fixed / Mobile
Environment: General Population/Uncontrolled Exposure

Technical Information:

Antenna Type/ Gain[1]: Omni Monopole, 11dBi
Yagi Yuda, 16 dBi
Sector Antenna, 18.5 dBi[2]
Maximum Transmitter Conducted Power: 18.9 dBm, 77.6247 mW
Maximum System EIRP: 36 dBm, 3981.072 mW
Exposure Conditions: Greater than 23 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	18.9	0.60	77.62	17.1	51.286	23	0.599

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 23 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.

[1] List of the antennas added under the Class 2 Permissive Change.

[2] The Sector antenna is professionally installed and uses a minimum cable length as to provide a minimum attenuation of 1.4 dB per the manufacturer installation instructions, leading to a maximum EIRP and aggregated gain of 36 dBm and 17.1 dBi, respectively.