



Test Report

Prepared for: Avalan Wireless Systems Incorporated

Model: MOD090-HP

Description: Wireless Ethernet Communication Radio

Serial Number: #2

FCC ID: R4N-AW900G2HP

To

FCC Part 1.1310

Date of Issue: February 13, 2017

On the behalf of the applicant:

Avalan Wireless Systems Incorporated
125A Castle Drive
Madison, AL 35758

Attention of:

Mike Derby, CTO
Ph: (650)384-0000
Email: mike@avalanwireless.com

Prepared By
Compliance Testing, LLC
1724 S. Nevada Way
Mesa, AZ 85204
(480) 926-3100 phone / (480) 926-3598 fax
www.compliancetesting.com
Project No: p16c0014

Kenneth Lee
Project Test Engineer

This report may not be reproduced, except in full, without written permission from Compliance Testing
All results contained herein relate only to the sample tested



Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	January 18, 2017	Kenneth Lee	Original Document



ILAC / A2LA

Compliance Testing, LLC, has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF Communiqué dated January 2009)

The tests results contained within this test report all fall within our scope of accreditation, unless below

Please refer to <http://www.compliancetesting.com/labscope.html> for current scope of accreditation.

Testing Certificate Number: **2152.01**



FCC Site Reg. #349717

IC Site Reg. #2044A-2

Non-accredited tests contained in this report:

N/A

EUT Description

Model: MOD090-HP

Description: Wireless Ethernet Communication Radio

Firmware: 1.10

Software: 1.10

Serial Number: #2

Additional Information: The data in this test report was taken with the 6 dBi antenna. The device can be sold with antennas that have a higher gain, in these cases; the power shall be reduced by 1 dB for every dB the antenna's gain exceeds 6 dBi.

**MPE Evaluation**

This is a fixed device used in Uncontrolled Exposure environment.

Limits Controlled Exposure**47 CFR 1.1310****Table 1, (A)**

0.3-3.0 MHz:	Limit [mW/cm ²] = 100
3.0-30 MHz:	Limit [mW/cm ²] = (900/f ²)
30-300 MHz:	Limit [mW/cm ²] = 1.0
300-1500 MHz:	Limit [mW/cm ²] = f/300
1500-100,000 MHz	Limit [mW/cm ²] = 5

Limits Uncontrolled Exposure**47 CFR 1.1310****Table 1, (B)**

0.3-1.234 MHz:	Limit [mW/cm ²] = 100
1.34-30 MHz:	Limit [mW/cm ²] = (180/f ²)
30-300 MHz:	Limit [mW/cm ²] = 0.2
300-1500 MHz:	Limit [mW/cm ²] = f/1500
1500-100,000 MHz	Limit [mW/cm ²] = 1.0

Test Data

Test Frequency, MHz	904.4
Power, Conducted, mW (P)	982
Antenna Gain Isotropic	6dBi
Antenna Gain Numeric (G)	3.98
Antenna Type	Omni
Distance (R)	20 cm

$$S = \frac{P * G}{4\pi r^2}$$

Power Density (S) mw/cm²

Power Density (S) =	0.77756
Limit =(from above table) =	0.60293



Minimum Safe Distance Evaluation

This is a fixed device used in Uncontrolled Exposure environment.

Limits Controlled Exposure

47 CFR 1.1310

Table 1, (A)

0.3-3.0 MHz:	Limit [mW/cm ²] = 100
3.0-30 MHz:	Limit [mW/cm ²] = (900/f ²)
30-300 MHz:	Limit [mW/cm ²] = 1.0
300-1500 MHz:	Limit [mW/cm ²] = f/300
1500-100,000 MHz	Limit [mW/cm ²] = 5

Limits Uncontrolled Exposure

47 CFR 1.1310

Table 1, (B)

0.3-1.234 MHz:	Limit [mW/cm ²] = 100
1.34-30 MHz:	Limit [mW/cm ²] = (180/f ²)
30-300 MHz:	Limit [mW/cm ²] = 0.2
300-1500 MHz:	Limit [mW/cm ²] = f/1500
1500-100,000 MHz	Limit [mW/cm ²] = 1.0

Test Data

Test Frequency, MHz	904.4
Power, Conducted, mW (P)	982
Antenna Gain Isotropic	6dBi
Antenna Gain Numeric (G)	3.98
Antenna Type	Omni
Limit (L)	0.60293

R=√(PG/4πL)	Distance (R) cm	Power mW (P)	Numeric Gain (G)	Limit (L)
		982	3.98	0.60293

The minimum safe distance is 22.71794 cm.

END OF TEST REPORT