



Compliance Testing, LLC

Previously Flom Test Lab

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Test Report

Prepared for: Avalan Wireless Systems Incorporated

Model: MOD090-LP

Description: Wireless Ethernet Communication Radio

Serial Number: #3

FCC: R4N-AW900G2LP

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
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Project No: p16c0015**

**Kenneth Lee
Project Test Engineer**

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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-LP

Description: Wireless Ethernet Communication Radio

Firmware: 1.11

Software: 1.10

Serial Number: #3

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
Power, Conducted, mW (P)	843
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/cm ²

Power Density (S) =	0.667503
Limit =(from above table) =	0.602666



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
Power, Conducted, mW (P)	843
Antenna Gain Isotropic	6dBi
Antenna Gain Numeric (G)	3.98
Antenna Type	Omni
Limit (L)	0.602666

$R = \sqrt{(PG/4\pi L)}$			
Distance (R) cm	Power mW (P)	Numeric Gain (G)	Limit (L)
	843	3.98	0.602666

The minimum safe distance is 21.05339 cm.

END OF TEST REPORT