

## RF Exposure

### Method

The test methods used comply with ANSI C63.10. Unless otherwise stated no deviations were made from FCC OET 65 & IC RSS-102.

This testing was performed at Intertek Denver, located at 1795 Dogwood St. Suite 200, Louisville, CO 80027.

### Test Requirement/Specification

- FCC OET Bulletin 65/ KDB 447498
- RSS-102

### Results:

The sample tested was found to comply.

### RF Exposure Requirements - MPE

Project #:	G101503619	Test Area:	Intertek Louisville
Test Method:	FCC CFR47 Part 1.1310	Test Date:	5/28/2014
EUT Model #:	W0900-01		
EUT Serial #:	DEN1402111313		
Manufacturer:	FreeWave Technologies Inc.		
EUT Description:	802.11 a/g PCIe Radio Module		
Notes:	With antenna model: PRO890-16 (5' Yagi antenna)		

The following limit is from table 1 (B) Limits for Occupational/Controlled Exposure  
Exposure in FCC part 1.1310:

Power Density Limit for Frequency Range 300-1500MHz =  $f/300 = 902/300 = 3 \text{ mW/cm}^2$

The following calculation was used to determine compliance to the above limit. The calculation is from FCC OET bulletin 65.

Power Density(S) =  $PG/4\pi R^2$  or  $S=EIRP/4\pi R^2$

**To determine what minimum distance the product can satisfy the Power Density Limit:**

$R(\text{cm}) = \text{SQRT}[(P*G)/(4*\pi*S)]$

Where:

S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

P = power input to the antenna (mW).

G = numeric 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 (cm)

Maximum measured conducted power to the antenna = 100 mW

Maximum typical gain declared by the manufacture = 16 dBi

Therefore: Minimum Distance = 20 cm

### **Power Density**

<b>Power (mW)</b>	<b>Gain (dbi)</b>	<b>Gain numeric</b>	<b>Distance (cm)</b>	<b>Power Density (mW/cm<sup>2</sup>)</b>
100	16	39.8	20	0.79

Therefore: Power Density Margin ( $\Delta$  Limit) = 0.79 - 3 = -2.21 mW/cm<sup>2</sup>