



# Compliance Testing, LLC

Previously Flom Test Lab

EMI, EMC, RF Testing Experts Since 1963

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## Test Report

Prepared for: Freewave Technologies

Model: WP201

Description: Access Point

Serial Number: 163235777

FCC ID: KNYPRW5000AB

To

FCC Part 1.1310

Date of Issue: January 25, 2017

On the behalf of the applicant:

Freewave Technologies  
5395 Pearl Parkway  
Boulder, CO 80301

Attention of:

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Project No: p1660014

Poona Saber  
Project Test Engineer

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All results contained herein relate only to the sample tested

### Test Report Revision History

| Revision | Date              | Revised By  | Reason for Revision  |
|----------|-------------------|-------------|--|
| 1.0      | November 21, 2016 | Poona Saber | Original Document  |
| 2.0      | January 12, 2017  | Poona Saber | Revised power levels and MPE calculation based on old rules and FCC ID: KNYPRW5000AB |
| 3.0      | January 23, 2017  | Poona Saber | Changed portable to fixed location on page 5 and 6                                   |
|          |                   |             |  |

## 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:** WP201

**Description:** Access Point

**Firmware:** V2.1.3

**Software:** N/A

**S/N:** 163235777

## Source Based Time Averaged Power Calculation

### Average Power calculations

Average Power = Peak Power \* duty-cycle%

| <b>Tuned Frequency<br/>(MHz)</b> | <b>Conducted Peak Output Power<br/>(mW)</b> | <b>Duty Cycle<br/>(%)</b> | <b>Average Power<br/>(mW)</b> |
|----------------------------------|---|---------------------------|-------------------------------|
| 5785                             | 990.6                                       | 96.2                      | 952.9                         |

## MPE Evaluation

This is a fixed location device used in Uncontrolled Exposure environment.

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

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

### Test Data

|                          |         |
|--------------------------|---------|
| Test Frequency, MHz      | 5785    |
| Power, Conducted, mW (P) | 952.9   |
| Antenna Gain Isotropic   | 34 dBi  |
| Antenna Gain Numeric (G) | 2511.88 |
| Antenna Type             | Dish    |
| Distance (R)             | 20 cm   |

|                                      |
|--------------------------------------|
| $S = \frac{P * G}{4\pi r^2}$         |
| Power Density (S) mw/cm <sup>2</sup> |
|                                      |

|                               |
|-------------------------------|
| Power Density (S) = 476.18    |
| Limit =(from above table) = 1 |

### Minimum Safe Distance Evaluation

This is a Fixed location device used in Uncontrolled Exposure environment.

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

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

### Test Data

|                          |         |
|--------------------------|---------|
| Test Frequency, MHz      | 5785    |
| Power, Conducted, mW (P) | 952.9   |
| Antenna Gain Isotropic   | 34 dBi  |
| Antenna Gain Numeric (G) | 2511.88 |
| Antenna Type             | Dish    |
| Limit (L)                | 1       |

|                          |              |                  |           |
|--------------------------|--------------|------------------|-----------|
| $R = \sqrt{(PG/4\pi L)}$ |              |                  |           |
| Distance (R) cm          | Power mW (P) | Numeric Gain (G) | Limit (L) |
| 436.5442656              | 952.9        | 2511.88          | 1         |

END OF TEST REPORT