



# **Compliance Testing, LLC**

Previously Flom Test Lab

EMI, EMC, RF Testing Experts Since 1963

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## **Test Report**

**Prepared for: Ubiquiti Networks, Inc**

**Model: PBE-5AC**

**Description: PowerBeam 5AC**

**FCC ID: SWX-PBE5AC**

**To**

**FCC Part 1.1310**

**Date of Issue: April 8, 2015**

**On the behalf of the applicant:**

**Ubiquiti Networks, Inc  
91 E. Tasman Drive  
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**Attention of:**

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Project No: p14a0019**

**Greg Corbin  
Project Test Engineer**

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### Test Report Revision History

| Revision | Date          | Revised By  | Reason for Revision |
|----------|---------------|-------------|---------------------|
| 1.0      | April 8, 2015 | Greg Corbin | 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:** PBE-5AC

**Description:** PowerBeam 5AC

**Firmware:** N/A

**Software:** N/A

**Serial Number:** N/A

### **Additional Information:**

The EUT was tested conducted mode with RF connectors mounted on the EUT at the antenna input. When the test cable is plugged into the RF connector mounted to the EUT it disables the antenna connection.

The EUT is powered by POE (Power Over Ethernet).

The different data rates were evaluated and the worst case data rate was chosen for all the testing.



## Source Based Time Averaged Power Calculation

### Average Power calculations

Average Power = Peak Power \* duty-cycle%

| Tuned Frequency (MHz) | Conducted Peak Output power (mW) | Duty Cycle | Average Power (mW) |
|-----------------------|----------------------------------|------------|--------------------|
| 5790                  | 269.1                            | 100        | 269.1              |

### MPE Evaluation

This is a **fixed/mobile** device used in uncontrolled /general population 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      | 5790  |
| Power, Conducted, mW (P) | 269.1 |
| Antenna Gain Isotropic   | 6 dBi |
| 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 <sup>2</sup> | Power mW (P) | Numeric Gain (G) | Distance (r <sup>2</sup> ) cm |
| 0.213                                | 269.1        | 3.98             | 20                            |

|                                 |
|---------------------------------|
| Power Density (S) =0.213        |
| Limit =(from above table) = 1.0 |

END OF TEST REPORT