



## **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: R5-AC-PTMP**

**Description: Rocket 5AC PTMP**

**Serial Number: N/A**

**FCC ID: SWX-R5ACPTMP**

**To**

**FCC Part 1.1310**

**Date of Issue: 1/31/2016**

**On the behalf of the applicant:**

**Ubiquiti Networks, Inc  
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**Attention of:**

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Project No: p15a0017**

**Kenneth Lee  
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 9, 2015 | 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:** R5-AC-PTMP

**Description:** Rocket 5AC PTMP

**Firmware:** N/A

**Software:** N/A

**Serial Number:** N/A

**Additional Information:** The EUT is a 2x2 MIMO 802.11ac radio

**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> |
|----------------------------------|---------------------------------------------|---------------------------|-------------------------------|
| 5800                             | 89.125                                      | 100                       | 89.125                        |

## MPE Evaluation

This is a **fixed/mobile** device used in uncontrolled /general population exposure environment.

|                                     |                  |                                                     |
|-------------------------------------|------------------|-----------------------------------------------------|
| <b>Limits Uncontrolled Exposure</b> | 0.3-1.234 MHz    | Limit [mW/cm <sup>2</sup> ] = 100                   |
| <b>47 CFR 1.1310</b>                | 1.34-30 MHz      | Limit [mW/cm <sup>2</sup> ] = (180/f <sup>2</sup> ) |
| <b>Table 1, (B)</b>                 | 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      | 5800    |
| Power, Conducted, mW (P) | 89.125  |
| Antenna Gain Isotropic   | 31dBi   |
| Antenna Gain Numeric (G) | 1258.93 |
| Antenna Type             | Dish    |
| Distance (R)             | 20      |

|                                      |              |                  |                               |
|--------------------------------------|--------------|------------------|-------------------------------|
| $S = \frac{P * G}{4\pi r^2}$         |              |                  |                               |
| Power Density (S) mw/cm <sup>2</sup> | Power mW (P) | Numeric Gain (G) | Distance (r <sup>2</sup> ) cm |
|                                      | 89.125       | 1258.93          | 20                            |

|                             |        |
|-----------------------------|--------|
| Power Density (S) =         | 22.322 |
| Limit =(from above table) = | 1.0    |

The Power Density of 22.322 mw/cm<sup>2</sup> is over the limit of 1.0 mw/cm<sup>2</sup> for the uncontrolled /general population exposure environment so Minimum Safe Distance was calculated.

## Minimum Safe Distance 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      | 5800    |
| Power, Conducted, mW (P) | 89.125  |
| Antenna Gain Isotropic   | 31dBi   |
| Antenna Gain Numeric (G) | 1258.93 |
| Antenna Type             | Dish    |
| Limit (L)                | 20      |

|                          |              |                  |           |
|--------------------------|--------------|------------------|-----------|
| $R = \sqrt{(PG/4\pi L)}$ |              |                  |           |
| Distance (R) cm          | Power mW (P) | Numeric Gain (G) | Limit (L) |
| 94.516                   | 89.125       | 1258.93          | 1.0       |

The minimum safe distance is 94.516 cm.

END OF TEST REPORT