



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

Models: PBE-5AC-Gen2

PBE-5AC-Omni-Gen2

Description: PowerBeam 5AC (G2)

PowerBeam 5AC Omni (G2)

Serial Number: NA

FCC ID: SWX-PBE5ACG2

To

FCC Part 1.1310

Date of Issue: April 11, 2017

On the behalf of the applicant:

Ubiquiti Networks, Inc

2580 Orchard Parkway

San Jose, CA 95131

Attention of:

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Project No: p1710010

Alex Macon

Project Test Engineer

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Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	August 17, 2015	Alex Macon	Original Document
2.0	April 6, 2017	Poona Saber	Updated models, fcc ID ,antenna gain and mpe and minimum distance calculation based on the 25 dBi instead of 23 dBi
3.0	April 7, 2017	Poona Saber	Added Reference Test Data section to page 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: PBE-5AC-Gen2, PBE-5AC-Omni-Gen2

Description: PowerBeam 5AC (G2), PowerBeam 5AC Omni (G2)

Firmware: AirOS 8.0.1

Software: AirOS 8.0.1

Serial Number: N/A

Reference Test Data:

This report contains test data from a device which has already been certified pursuant to Part 15.407
FCC ID: SWX- LBE5AC

The certification being sought for PBE-5AC-G2 and PBE-5AC-G2-Omni contains the same RF circuitry as the mentioned FCC ID. The Gen2 device incorporates the 2.4GHz emission which was turned off via software in the previous certification. Testing was performed to FCC Part 15.247 to address the different emissions. This report is included under the 15.247 certification, FCC ID SWX-PBE5ACG2



Average Power calculations

Average Power = Peak Power * duty-cycle%

Tuned Frequency (MHz)	Conducted Peak Output Power (mW)	Duty Cycle (%)	Average Power (mW)
5800	275	100	275



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
1.34-30 MHz
30-300 MHz
300-1500 MHz
1500-100,000 MHz

Limit [mW/cm²] = 100
Limit [mW/cm²] = (180/f²)
Limit [mW/cm²] = 0.2
Limit [mW/cm²] = f/1500
Limit [mW/cm²] = 1.0

Test Data

Test Frequency, MHz	5800
Power, Conducted, mW (P)	275
Antenna Gain Isotropic	25
Antenna Gain Numeric (G)	316.2
Antenna Type	Dish
Distance (R)	20

$S = \frac{P * G}{4\pi r^2}$			
Power Density (S) mw/cm ²	Power mW (P)	Numeric Gain (G)	Distance (r ²) cm
17.3	275	316.2	20

Power Density (S) =	17.3
Limit =(from above table) =	1.0

The Power Density of 17.3 mw/cm² is over the limit of 1.0 mw/cm² for the uncontrolled /general population exposure environment so Minimum Safe Distance was calculated.

$R = \sqrt{(PG/4\pi L)}$			
Distance (R) cm	Power mW (P)	Numeric Gain (G)	Limit (L)
83.2	275	316.2	1.0

The minimum safe distance is 83.2 cm.

END OF TEST REPORT