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## RF Exposure Report

**Report No.:** SA150814E01

**FCC ID:** RRR-EA-7HW03AP1

**Test Model:** EA-7HW03AP1W

**Series Model:** EA-7HW03AP1T

**Received Date:** Aug. 14, 2015

**Test Date:** Nov. 04, 2015

**Issued Date:** Dec. 24, 2015

**Applicant:** Alpha Networks Inc.

**Address:** No.8 Li-shing 7th Rd., Science-based Industrial Park, Hsinchu, Taiwan, R.O.C.

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.

**Test Location (1):** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.

**Test Location (2):** No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

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### Release Control Record


Issue No.	Description	Date Issued
SA150814E01	Original release.	Dec. 24, 2015

## 1 Certificate of Conformity

**Product:** Wireless LAN Access Point  
**Brand:** Panasonic  
**Test Model:** EA-7HW03AP1W  
**Series Model:** EA-7HW03AP1T  
**Sample Status:** R&D SAMPLE  
**Applicant:** Alpha Networks Inc.  
**Test Date:** Nov. 04, 2015  
**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D01 General RF Exposure Guidance v06  
IEEE Std C95.1-2005

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :



, Date:

Dec. 24, 2015

Midoli Peng / Specialist

Approved by :



, Date:

Dec. 24, 2015

May Chen / Manager

## 2 RF Exposure

### 2.1 Limits For Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

R = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 36cm away from the body of the user.

So, this device is classified as **Mobile Device**.

## 3 Antenna Gain

The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Brand	Model	Antenna Type	Antenna Gain (dBi)		Connector type
				2.4GHz	5GHz	
Chain (0)	Hong Lin INDUSTRIAL CO.,LTD	290-20211	PIFA	3	4	I-PEX
Chain (1)		290-20211		3	4	
Chain (2)		290-20212		3	4	
Chain (3)		290-20212		3	4	

#### 4 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	973.865	9.02	36	0.47718	1
5180-5240	392.29	10.02	36	0.24199	1
5745-5825	811.076	10.02	36	0.50032	1

NOTE:

2.4GHz: Directional gain = 3dBi + 10log(4) = 9.02dBi

5GHz: Directional gain = 4dBi + 10log(4) = 10.02dBi

#### Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + .....etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.47718 + 0.50032 = 0.978

**Therefore the maximum calculations of above situations are less than the “1” limit.**

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