RF Exposure Report

Report No.:	SA150814E01
FCC ID:	RRK-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^2)	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

$Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in mW/cm^2

Pout = 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^2)	Limit (mW/cm^2)
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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