RF Exposure Report

Report No.: SA160315E16

FCC ID: YZKECWO7220L

Test Model: ECWO7220-L

Received Date: Mar. 15, 2016

Test Date: May 20, 2016

Issued Date: June 01, 2016

Applicant: Edgecore Networks Corporation.

Address: No.1, Creation Rd. III, Hsinchu Science Park, Hsinchu 30077, Taiwan, R.O.C

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

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Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SA160315E16	Original release.	June 01, 2016

1 Certificate of Conformity

Product:	802.11a/ac/b/g/n Outdoor Wireless Access Point
Brand:	Edge-corE
Test Model:	ECWO7220-L
Sample Status:	MASS-PRODUCTION
Applicant:	Edgecore Networks Corporation.
Test Date:	May 20, 2016
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.1-1992

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 : Wendy Wu , **Date:** June 01, 2016

Wendy Wu / Specialist

Approved by : , **Date:** June 01, 2016

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**.

2.4 Antenna Gain

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

For 2.4GHz									
Antenna No	PCB Chain No.	Brand	Model	Antenna Type	Antenna Connector	Gain (dBi) < Including cable loss>	Cable Loss(dB)	Cable Length (mm)	Frequency (GHz to GHz)
1	Chain 0	Accton	OAP1122B-0614-EC 3X3 SKU	Dipole	MMCX	6	0	175	2.4~2.4835
2	Chain 1	Accton	OAP1122B-0614-EC 3X3 SKU	Dipole	MMCX	5.7	0	70	2.4~2.4835
3	Chain 2	Accton	OAP1122B-0614-EC 3X3 SKU	Dipole	MMCX	5.4	0	170	2.4~2.4835
For 5GHz									
Antenna No	PCB Chain No.	Brand	Model	Antenna Type	Antenna Connector	Gain (dBi) < Including cable loss>	Cable Loss(dB)	Cable Length (mm)	Frequency (GHz to GHz)
1	Chain 0	Accton	OAP1122B-0614-EC 3X3 SKU	Dipole	MMCX	5.6	0	205	5.15~5.25
						5.1			5.25~5.35
						5.1			5.47~5.725
						6			5.725~5.85
2	Chain 1	Accton	OAP1122B-0614-EC 3X3 SKU	Dipole	MMCX	5.9	0	150	5.15~5.25
						5.7			5.25~5.35
						6			5.47~5.725
						5.5			5.725~5.85
3	Chain 2	Accton	OAP1122B-0614-EC 3X3 SKU	Dipole	MMCX	6	0	75	5.15~5.25
						5.5			5.25~5.35
						5.9			5.47~5.725
						5.5			5.725~5.85

3 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	462.001	10.47	36	0.31610	1
5180-5240	31.49	10.61	36	0.02225	1
5745-5825	858.399	10.44	36	0.58327	1

NOTE:
2.4GHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 10.47dBi
5GHz:
UNII-1: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 10.61dBi
UNII-3: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 10.44dBi

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 = 0.31610 / 1 + 0.58327 / 1 = 0.89937

Therefore the maximum calculations of above situations are less than the "1" limit.

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