

## 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.

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

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### 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 / Specialist

**Date:**

June 01, 2016

**Approved by :**

  
May Chen / Manager

**Date:**

June 01, 2016

## 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

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

where

Pd = power density in mW/cm<sup>2</sup>

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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
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 =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 10.47\text{dBi}$

5GHz:

UNII-1: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 10.61\text{dBi}$

UNII-3: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 10.44\text{dBi}$

#### Conclusion:

The formula of calculated the MPE is:

$\text{CPD1} / \text{LPD1} + \text{CPD2} / \text{LPD2} + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

$\text{WLAN 2.4GHz} + \text{WLAN 5GHz} = 0.31610 / 1 + 0.58327 / 1 = 0.89937$

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

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