

RF Exposure Report

Report No.: SA170809E07

FCC ID: YZKECW5211O

Test Model: ECW5211-O

Series Model: ECW5211-L, ECW5211-L2

Received Date: Aug. 09, 2017

Test Date: Sep. 06, 2017

Issued Date: Oct. 11, 2017

Applicant: Edgecore Networks Corporation

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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Release Control Record

| Issue No. | Description | Date Issued |
|-------------|-------------------|---------------|
| SA170809E07 | Original release. | Oct. 11, 2017 |

1 Certificate of Conformity

Product: 802.11ac Wireless Access Point

Brand: Edgecore

Test Model: ECW5211-O

Series Model: ECW5211-L, ECW5211-L2

Sample Status: ENGINEERING SAMPLE

Applicant: Edgecore Networks Corporation

Test Date: Sep. 06, 2017

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.

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Date:

Oct. 11, 2017

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Date:

Oct. 11, 2017

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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 | | | | |
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f ²)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | ... | ... | f/1500 | 30 |
| 1500-100,000 | ... | ... | 1.0 | 30 |

f = Frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

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

where

Pd = power density in mW/cm²

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 28cm away from the body of the user.
So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

| Antenna No. | Antenna Net Gain(dBi) | Frequency range (GHz) | Antenna Type | Connector Type | Cable Length (mm) |
|-------------|-----------------------|-----------------------|--------------|----------------|-------------------|
| Antenna 1 | 4.17 | 2.4~2.4835 | Monopole | i-pex | 180 |
| | 5.83 | 5.15~5.85 | | | |
| Antenna 2 | 4.27 | 2.4~2.4835 | Monopole | i-pex | 160 |
| | 8.18 | 5.15~5.85 | | | |

2.5 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 | 864.046 | 7.23 | 28 | 0.46346 | 1 |
| 5180-5240 | 349.188 | 10.09 | 28 | 0.36185 | 1 |
| 5745-5825 | 417.679 | 10.09 | 28 | 0.43283 | 1 |

NOTE:

2.4GHz: Directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 7.23\text{dBi}$

5.0GHz: Directional gain = $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 10.09\text{dBi}$

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = $0.46346 / 1 + 0.43283 / 1 = 0.89629$

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

--- END ---