

RF Exposure Evaluation Report

Equipment : 802.11a/ac/b/g/n Wireless Access Point
Brand Name : Edge-corE
Model No. : ECW7212-L/ECW7212-O
FCC ID : YZKECW7212L
Standard : 47 CFR Part 2.1091
Applicant : Edgecore networks Corporation
No. 1 Creation Rd., III, Hsinchu Science Park,
Hsinchu 30077, Taiwan
Manufacturer : Accton Technology Corp
No. 1 Creation Rd., III, Hsinchu Science Park,
Hsinchu 30077, Taiwan

The product sample received on Jan. 03, 2017 and completely tested on Apr. 21, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit.

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Cliff Chang
SPORTON INTERNATIONAL INC.





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PHOTOGRAPHS OF EUT V01		



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA660306-01	Rev. 01	Initial issue of report	Mar. 23, 2017
FA660306-01	Rev. 02	Revising antenna gain to "ANT.1 2.4GHz: 4.88dBi, 5GHz: 5.09dBi/Ant.2 2.4GHz: 4.73dBi, 5GHz: 5.86dBi" from "ANT.1 2.4GHz: 4.51dBi, 5GHz: 4.60dBi/Ant.2 2.4GHz: 4.53dBi, 5GHz: 5.67dBi".	Jun. 01, 2017

1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
5GHz WLAN	5150-5250 5725-5850	5180-5240 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)

1.2 Table for Multiple Listing

The EUT has two model names which are identical to each other in all aspects except for the following table:

Brand Name	Model Name	Description
Edge-corE	ECW7212-L	All the models are identical, the different model names served as marketing strategy.
	ECW7212-O	

From the above models, model: ECW7212-L was selected as representative model for the test and its data was recorded in this report.

1.3 Testing Location

Testing Location		
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Method

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Simultaneous Transmission Analysis Mode: WLAN 2.4GHz+WLAN 5GHz

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;D1D	4.88	25.02	29.90	0.97724	20	0.19442	1.00000	0.19442
5.2G;D1D	5.86	26.25	32.11	1.62555	20	0.32339	1.00000	0.32339
							Sum Ratio	0.51781
							Ratio Limit	1