

RF EXPOSURE REPORT

REPORT NO.: SA140402E02A R1

MODEL NO.: ECWO4320, ECWO4320-C, ECWO4320-L,
ECWO4324, ECWO4324-C, ECWO4324-L

FCC ID: YZKECWO4320

RECEIVED: Apr. 08, 2014

TESTED: Apr. 08 to May 09, 2014

ISSUED: May 29, 2014

APPLICANT: Edgecore Networks Corporation.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140402E02A	Original release	May 14, 2014
SA140402E02A R1	Modified the product name.	May 29, 2014

1. CERTIFICATION

PRODUCT: 802.11ac Outdoor 5GHz Access Point

BRAND NAME: Edge-corE

MODEL NO.: ECWO4320, ECWO4320-C, ECWO4320-L,
ECWO4324, ECWO4324-C, ECWO4324-L

TEST SAMPLE: ENGINEERING SAMPLE

APPLICANT: Edgecore Networks Corporation.

TESTED DATE: Apr. 08 to May 09, 2014

STANDARDS: FCC Part 2 (Section 2.1091)
FCC OET Bulletin 65, Supplement C (01-01)
IEEE C95.1

The above equipment (Model: ECWO4320, ECWO4324) have 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 : Phoenix Huang , **DATE:** May 29, 2014
(Phoenix Huang, Specialist)

APPROVED BY : May Chen , **DATE:** May 29, 2014
(May Chen, Manager)

2. RF EXPOSURE LIMIT

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

3. MPE CALCULATION FORMULA

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. ANTENNA GAIN

External antenna								
Transmitter Circuit	Antenna Type	Connector Type	Antenna Gain(dBi) < excluding cable loss>	Inside EUT		Outside EUT		Frequency range (MHz to MHz)
				Cable Loss (dB)	Cable Length (mm)	Cable Loss (dB)	Cable Length (mm)	
Chain (0)	Dipole	RP-SMA	2.7	1.2	250	2.9	500	5150~5850
Chain (1)	Dipole	RP-SMA	2.7	1.2	250	2.9	500	5150~5850
Internal antenna								
Transmitter Circuit	Antenna Type	Connector Type	Antenna Gain(dBi)	Frequency range (MHz to MHz)				
Chain (0)	Patch Array	MMCX	8	5150~5850				
Chain (1)	Patch Array	MMCX	8	5150~5850				

※For 802.11a mode will fix transmission on Chain (0)

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247 the Maximum power was refer to the FCC test report (Report No.: RF140402E02C)

For WLAN: 15.247
With External antenna
802.11a

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	253.513	-1.4	20	0.03654	1.00

802.11ac (VHT20), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	253.513	-1.4	20	0.03654	1.00

802.11ac (VHT40), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5755 - 5795	251.768	-1.4	20	0.03629	1.00

802.11ac (VHT80), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5775	153.109	-1.4	20	0.02207	1.00

802.11ac (VHT20), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	224.946	-1.4	20	0.03530	1.00

802.11ac (VHT40), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5755 - 5795	200.708	-1.4	20	0.02893	1.00

802.11ac (VHT80), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5775	192.573	-1.4	20	0.02775	1.00

For WLAN: 15.247

With Internal antenna

802.11a

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	138.995	8	20	0.17447	1.00

802.11ac (VHT20), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	211.349	8	20	0.26530	1.00

802.11ac (VHT40), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5755 - 5795	208.449	8	20	0.26165	1.00

802.11ac (VHT80), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5775	153.109	8	20	0.19219	1.00

802.11ac (VHT20), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	217.548	8	20	0.27308	1.00

802.11ac (VHT40), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5755 - 5795	200.708	8	20	0.25194	1.00

802.11ac (VHT80), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5775	192.573	8	20	0.24173	1.00

For WLAN: 15.407

With External antenna

802.11a

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	46.026	-1.4	20	0.00663	1.00

802.11ac (VHT20), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	45.082	-1.4	20	0.00650	1.00

802.11ac (VHT40), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190 - 5230	49.091	-1.4	20	0.00708	1.00

802.11ac (VHT80), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	49.091	-1.4	20	0.00708	1.00

802.11ac (VHT20), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	45.450	-1.4	20	0.00655	1.00

802.11ac (VHT40), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190 - 5230	49.095	-1.4	20	0.00708	1.00

802.11ac (VHT80), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	46.776	-1.4	20	0.00674	1.00

For WLAN: 15.407

With Internal antenna

802.11a

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	10.423	8	20	0.01308	1.00

802.11ac (VHT20), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	10.351	8	20	0.01299	1.00

802.11ac (VHT40), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190 - 5230	10.447	8	20	0.01311	1.00

802.11ac (VHT80), 1Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	10.889	8	20	0.01367	1.00

**A D T****802.11ac (VHT20), 2Tx**

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	10.175	8	20	0.01272	1.00

802.11ac (VHT40), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190 - 5230	11.048	8	20	0.01387	1.00

802.11ac (VHT80), 2Tx

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	10.896	8	20	0.01368	1.00

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