



# RF EXPOSURE REPORT

**REPORT NO.:** SA140718E03

**MODEL NO.:** ECW5320, ECW5320-L, ECW5320-C,  
SS-AC1200-US

**FCC ID:** HEDSSAC1200

**RECEIVED:** July 18, 2014

**TESTED:** Aug. 16 to 19, 2014

**ISSUED:** Aug. 28, 2014

**APPLICANT:** Accton Technology Corporation

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**ISSUED BY:** Bureau Veritas Consumer Products Services  
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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140718E03	Original release	Aug. 28, 2014

## 1. CERTIFICATION

**PRODUCT:** 802.11ac Dual-Band Wireless Access Point,  
Dualband Ceiling/Wall/Desktop Enterprise AP (802.11ac)

**BRAND NAME:** Edge-corE, IgniteNet

**MODEL NO.:** ECW5320, ECW5320-L, ECW5320-C, SS-AC1200-US

**TEST SAMPLE:** ENGINEERING SAMPLE

**APPLICANT:** Accton Technology Corporation

**TESTED DATE:** Aug. 16 to 19, 2014

**STANDARDS:** FCC Part 2 (Section 2.1091)  
KDB 447498 D03  
IEEE C95.1

The above equipment (Model: SS-AC1200-US) 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** : Midoli Peng , **DATE:** Aug. 28, 2014  
( Midoli Peng, Specialist )

**APPROVED BY** : May Chen , **DATE:** Aug. 28, 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 <sup>2</sup> )	AVERAGE TIME (minutes)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
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/cm<sup>2</sup>

$P_{out}$  = 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

### 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

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

For 2.4G WLAN used						
Set	Transmitter Circuit	Antenna Gain(dBi) <including cable loss>	Frequency range (MHz ~ MHz)	Antenna Type	Connector Type	Cable Length (mm)
1	Chain (0)	3.16	2400~2500	PCB Dipole	IPEX	255 (Gray)
	Chain (1)	4.04				150 (Blue)
For 5G WLAN used						
Set	Transmitter Circuit	Antenna Gain(dBi) <including cable loss>	Frequency range (MHz ~ MHz)	Antenna Type	Connector Type	Cable Length (mm)
1	Chain (0)	5.07	5150~5850	PCB Dipole	MMCS	65 (White)
	Chain (1)	3.97				140 (Black)

## 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For WLAN: 15.247(2.4GHz)

### 802.11b

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412 - 2462	416.869	4.04	20	0.21025	1.00

### 802.11g

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412 - 2462	519.996	4.04	20	0.26226	1.00

### 802.11n (HT20)

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412 - 2462	982.948	4.04	20	0.49575	1.00

### 802.11n (HT40)

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2422 - 2452	363.576	4.04	20	0.18337	1.00

**For WLAN: 15.407(5GHz)**

**802.11a**

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
5180 – 5240 & 5745 - 5825	312.608	5.07	20	0.19986	1.00

**802.11ac (VHT20)**

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
5180 – 5240 & 5745 - 5825	381.551	5.07	20	0.24394	1.00

**802.11ac (VHT40)**

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
5190 – 5230 & 5755 - 5795	630.536	5.07	20	0.40312	1.00

**802.11ac (VHT80)**

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
5210 & 5775	166.267	5.07	20	0.10630	1.00



**CONCLUSION:**

Both of the 2.4GHz and 5GHz can transmit simultaneously, the formula of calculated the MPE is:

$$\text{CPD}_1 / \text{LPD}_1 + \text{CPD}_2 / \text{LPD}_2 + \dots \text{etc.} < 1$$

**CPD = Calculation power density**

**LPD = Limit of power density**

Therefore, the worst-case situation is  $0.49575 / 1 + 0.40312 / 1 = 0.89887$ , which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

**-- END ---**