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# RF EXPOSURE REPORT

**REPORT NO.:** SA120821E05A

**MODEL NO.:** RV315W

**FCC ID:** N89-RV315W

**RECEIVED:** Feb. 22, 2013

**TESTED:** Mar. 07, 2013

**ISSUED:** Apr. 03, 2013

**APPLICANT:** CyberTAN Technology, Inc.

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Industrial Park, Hsinchu, Taiwan 308,R.O.C.

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

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**TEST LOCATION (1):** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung  
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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA120821E05A	Original release	Apr. 03, 2013



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## 1. CERTIFICATION

**PRODUCT:** Cisco Broadband Wireless VPN Router

**BRAND NAME:** CISCO

**MODEL NO.:** RV315W

**TEST SAMPLE:** ENGINEERING SAMPLE

**APPLICANT:** CyberTAN Technology, Inc.

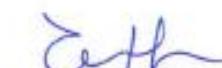
**TESTED DATE:** Mar. 07, 2013

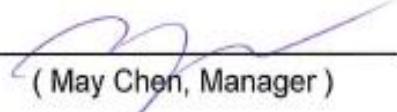
**STANDARDS:** FCC Part 2 (Section 2.1091)

FCC OET Bulletin 65, Supplement C (01-01)

IEEE C95.1

The above equipment (Model: RV315W) 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** :  , **DATE:** Apr. 03, 2013  
(Elsie Hsu, Specialist)

**APPROVED BY** :  , **DATE:** Apr. 03, 2013  
(May Chen, Manager)



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## 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

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

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

## 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 classified as mobile device.

This product could be applied with one USB Cellular Modem, and the safe distance is 33 cm for collocated radio.



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## 5. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

### For WLAN:

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	114.247	1.4	20	0.03137	1.00

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	114.247	1.4	33	0.01152	1.00

### For USB Cellular Modem:

DEVICE	MAX EIRP (mW)	MAX EIRP (dBm)	DISTANCE (cm)	POWER DENSITY (mW/ cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
USB Cellular Modem	7000	38.45	33	0.51152	0.55

This product can operate with a plug-in 3G device which has maximum of 7W ERP(7000mW EIRP) output power.

### CONCLUSION:

Both of the WLAN and plug-in device (USB Cellular Modem 3G) can transmit simultaneously, the formula of calculated the MPE is:

$$CPD_1 / LPD_1 + CPD_2 / LPD_2 + \dots \text{etc.} < 1$$

**CPD = Calculation power density**

**LPD = Limit of power density**

Therefore, the worst-case situation is  $0.03137 / 1 + 0.51152 / 0.55 = 0.961$ , which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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