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# RF EXPOSURE REPORT

**REPORT NO.:** SA110831C15B

**MODEL NO.:** APL25-091

**FCC ID:** QWU-091

**RECEIVED:** Aug. 31, 2011

**TESTED:** Oct. 07, 2011

**ISSUED:** Feb. 23, 2012

**APPLICANT:** SonicWALL, Inc.

**ADDRESS:** 2001 Logic Drive San Jose, CA 95124,  
USA

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

**LAB ADDRESS:** No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen,  
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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA110831C15B	Original release	Feb. 23, 2012



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## 1. CERTIFICATION

**PRODUCT:** Wireless 802.11 abgn Device

**BRAND NAME:** SonicWALL

**MODEL NO.:** APL25-091

**TEST SAMPLE:** ENGINEERING SAMPLE

**APPLICANT:** SonicWALL, Inc.

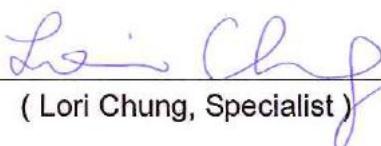
**TESTED:** Oct. 07, 2011

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

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

IEEE C95.1

The above equipment (Model: APL25-091) 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:** Feb. 23, 2012  
( Lori Chung, Specialist )

**APPROVED BY :** , **DATE:** Feb. 23, 2012  
( May Chen, Deputy 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

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

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 is classified as **Mobile Device**.



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## 5. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

### 802.11a:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
5260 ~ 5320 5500 ~ 5580, 5660 ~ 5700	95.1	7.4	20	0.104	1.00

Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$

Effective Legacy Gain (dBi) = 7.4

### 802.11n(20MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
5260 ~ 5320 5500 ~ 5580, 5660 ~ 5700	144.9	3	20	0.058	1.00

### 802.11n(40MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
5270 ~ 5310 5510 ~ 5550, 5670	240.4	3	20	0.095	1.00

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