



RF EXPOSURE REPORT

REPORT NO.: SA990419C03A

MODEL NO.: APL21-083

FCC ID: QWU-083

ACCORDING: FCC Guidelines for Human Exposure
IEEE C95.1

APPLICANT: Sonicwall, Inc.

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ISSUED BY: Bureau Veritas Consumer Products Services
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A D T

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	NA	Feb. 16, 2011



1. 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

2. MPE CALCULATION FORMULA

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

where

Pd = power density in mW/cm²

Pout = 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

3. 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**.



4. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

MODULATION MODE	FREQUENCY BAND (MHz)	MAX CONDUCTED POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
802.11a	5260-5320	20.8	8.77	20	0.180	1
802.11n (20MHz)	5260-5320	20.8	4	20	0.060	1
802.11n (40MHz)	5260-5320	20.9	4	20	0.061	1
802.11a	5500-5700	21.1	8.77	20	0.193	1
802.11n (20MHz)	5500-5700	22.0	4	20	0.079	1
802.11n (40MHz)	5500-5700	21.3	4	20	0.067	1

NOTE:

(802.11 a): Directional gain =4dBi + 10log(3) = 8.77dBi