

## RF Exposure Report

**Report No.:** SA180316C33

**FCC ID:** 2AKCZ-0CF

**Test Model:** APL44-0CF

**Received Date:** Mar. 16, 2018

**Test Date:** Mar. 19 ~ Mar. 29, 2018

**Issued Date:** Apr. 19, 2018

**Applicant:** SonicWall Inc.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SA180316C33	Original release	Apr. 19, 2018

## 1 Certificate of Conformity

**Product:** Wireless Access Point

**Brand:** SONICWALL

**Test Model:** APL44-0CF

**Sample Status:** Engineering sample

**Applicant:** SonicWall Inc.

**Test Date:** Mar. 19 ~ Mar. 29, 2018

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

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment 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 RF characteristics under the conditions specified in this report.

**Prepared by :** Celine Chou , **Date:** Apr. 19, 2018  
Celine Chou / Specialist

**Approved by :** Bruce Chen , **Date:** Apr. 19, 2018  
Bruce Chen / Project Engineer

## 2 RF Exposure

### 2.1 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)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 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

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 30cm away from the body of the user. So, this device is classified as Mobile Device.

### 3 Calculation Result of Maximum Conducted Power

Function	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN	Radio 1, CDD Mode					
	2412-2462	26.04	7.59	30	0.204	1
	Radio 1, Beamforming Mode					
	2412-2462	22.35	7.59	30	0.087	1
	Radio 2, CDD Mode					
	5180-5240	26.72	8.57	30	0.299	1
	5745-5825	26.77	8.57	30	0.302	1
	Radio 2, Beamforming Mode					
	5180-5240	23.67	8.57	30	0.148	1
	5745-5825	23.68	8.57	30	0.148	1
	Radio 3					
	2412-2462	19.84	3.89	30	0.021	1
BT LE	2402-2480	4.38	5.80	30	0.001	1

Note:

1. For Radio 1 2.4GHz Directional gain = 4.58dBi + 10log(2) = 7.59dBi
2. For Radio 2 5GHz Directional gain = 5.56dBi + 10log(2) = 8.57dBi

Frequency Band	Max Power (dBm)			Total Power (dBm)	Power Limit (dBm)
	Radio 1 WLAN	Radio 3 WLAN	BT LE		
2.4GHz	26.04	19.84	4.38	27.00	30

Conclusion:

The formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$\text{Radio 1 WLAN 2.4GHz} + \text{Radio 2 WLAN 5GHz} + \text{Radio 3 WLAN 2.4GHz} + \text{BT LE} = 0.204 + 0.302 + 0.021 + 0.001 = 0.528 < 1$$

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