

RF Exposure Report

Report No.: SA150513C20

FCC ID: E2K-APL290B7

Model: APL29-0B7

Received Date: May 13, 2015

Test Date: May 28 ~ Jun. 03, 2015

Issued Date: Jun. 05, 2015

Applicant: Dell Inc.

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

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Release Control Record

Issue No.	Description	Date Issued
SA150513C20	Original release.	Jun. 05, 2015

1 Certificate of Conformity

Product: Wireless Network Security Appliance

Brand: DELL, DELL SONICWALL, SONICWALL

Model: APL29-0B7

Sample Status: Engineering sample

Applicant: Dell Inc.

Test Date: May 28 ~ Jun. 03, 2015

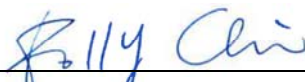
Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D03

IEEE C95.1

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 EMC characteristics under the conditions specified in this report.

Prepared by :


Polly Chien / Specialist

Date:

Jun. 05, 2015

Approved by :


Ken Liu / Senior Manager

Date:

Jun. 05, 2015

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 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

2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = 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

2.3 Classification

The antenna of this product, under normal use condition, is at least 23cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	29.56	7.44	23	0.754	1
5180-5240	23.91	7.44	23	0.205	1
5745-5825	20.66	7.44	23	0.097	1

Note:

2.4GHz & 5GHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/3] = 7.44$

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

WLAN 2.4GHz + WLAN 5GHz = 0.754 + 0.205 = 0.959

Therefore all the maximum calculations of above situations are less than the "1" limit.

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