

RF Exposure Report

Report No.: SA140910C20F

FCC ID: E2K-APL270B1

Test Model: APL27-0B1

Received Date: Sep. 10, 2014

Test Date: Sep. 23 ~ Oct. 15, 2014

Issued Date: Oct. 16, 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
SA140910C20F	Original release.	Oct. 16, 2015

1 Certificate of Conformity

Product: Wireless Access Point

Brand: DELL, DELL SONICWALL, SONICWALL

Test Model: APL27-0B1

Sample Status: Engineering sample

Applicant: Dell Inc.

Test Date: Sep. 23 ~ Oct. 15, 2014

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 :



Date:

Oct. 16, 2015

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Approved by :



Date:

Oct. 16, 2015

Ken Liu / Senior Manager

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 24cm 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	25.61	8.74	24	0.376	1
5180-5240	26.06	10.48	24	0.623	1
5260-5320	22.56	10.74	24	0.295	1
5500-5700	23.28	10.64	24	0.341	1
5745-5825	25.60	10.28	24	0.535	1

NOTE:

2.4GHz Band: Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2]$ = 8.74dBi

5.0GHz Band (5180-5240MHz): Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2]$ = 10.48dBi

5.0GHz Band (5260-5320MHz): Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2]$ = 10.74dBi

5.0GHz Band (5500-5700MHz): Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2]$ = 10.64dBi

5.0GHz Band (5745-5825MHz): Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2]$ = 10.28dBi

CONCLUSION:

Both of the 2.4 and 5GHz can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4G + WLAN 5.0G = 0.376 + 0.623 = 0.999

Therefore, the maximum calculation of this situation is 0.999, which is less than the "1" limit.

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