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.
Address:	One Dell Way, Round Rock, Texas 78682, USA
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
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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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

Pettie Chen / Senior Specialist

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

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

where

Pd = power density in mW/cm^2

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

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 = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2] = 8.74$dBi

5.0GHz Band (5180-5240MHz): Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2] = 10.48$dBi

5.0GHz Band (5260-5320MHz): Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2] = 10.74$dBi

5.0GHz Band (5500-5700MHz): Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2] = 10.64$dBi

5.0GHz Band (5745-5825MHz): Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2] = 10.28$dBi

CONCULSION:

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

CPD1 / LPD1 + CPD2 / LPD2 + ……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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