

RF EXPOSURE REPORT

REPORT NO.: SA140910C20A

MODEL NO.: APL27-0B1

FCC ID: E2K-APL270B1

RECEIVED: Sep. 10, 2014

TESTED: Sep. 15 ~ Sep. 30, 2014

ISSUED: Oct. 22, 2014

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, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140910C20A	Original release.	Oct. 22, 2014

1. CERTIFICATION

PRODUCT: Wireless Access Point

MODEL: APL27-0B1

BRAND: Dell, Dell Sonicwall, Sonicwall

APPLICANT: Dell Inc.

TESTED: Sep. 15 ~ Sep. 30, 2014

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 2 (Section 2.1091)

KDB 447498 D03

IEEE C95.1

The above equipment (Model: APL27-0B1) 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 :


Pettie Chen / Senior Specialist

, DATE : Oct. 22, 2014

APPROVED BY :


Ken Liu / Senior Manager

, DATE : Oct. 22, 2014

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

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

where

Pd = power density in mW/cm²

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**.

2.4 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	16.79	10.74	24	0.078	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 = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2] = 8.74\text{dBi}$
5.0GHz Band (5180-5240MHz): Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2] = 10.48\text{dBi}$
5.0GHz Band (5260-5320MHz): Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2] = 10.74\text{dBi}$
5.0GHz Band (5500-5700MHz): Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2] = 10.64\text{dBi}$
5.0GHz Band (5745-5825MHz): Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2] = 10.28\text{dBi}$

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.