RF Exposure Report

Report No.: SA170808D17A

FCC ID: 2AI9TOAW-AP122X

Test Model: OAW-AP1221, OAW-AP1222

Received Date: Mar. 23, 2017

Test Date: Jul. 12 ~ Sep. 19, 2017

Issued Date: Oct. 18, 2017

Applicant: ALE USA Inc.

Address: 26801 West Agoura Road, Calabasas, CA 91301

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

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Release Control Record

Issue No.	Description	Date Issued
SA170808D17A	Original release.	Oct. 18, 2017

1   Certificate of Conformity

Product: OmniAccess Stellar AP1220 series

Brand: Alcatel-Lucent Enterprise

Test Model: OAW-AP1221, OAW-AP1222

Sample Status: Engineering sample

Applicant: ALE USA Inc.

Test Date: Jul. 12 ~ Sep. 19, 2017

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 EMC characteristics under the conditions specified in this report.

Prepared by :   _Annie Chang_   ,   **Date:**   Oct. 18, 2017

Annie Chang / Senior Specialist

Approved by :   _Rex. Lai_   ,   **Date:**   Oct. 18, 2017

Rex Lai / Assistant 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 38cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Calculation Result Of Maximum Conducted Power

For Internal antenna:

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462 (Original Approved)	27.68	6.52	35	0.1709	1
5180-5240 (Original Approved)	18.18	10.37	35	0.0465	1
5260-5320	18.49	10.37	35	0.0500	1
5500-5700	23.61	10.37	35	0.1624	1
5745-5825 (Original Approved)	29.79	10.37	35	0.6740	1

NOTE:
2.4GHz Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / 4]$ = 6.52dBi
5.0GHz Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / 4]$ = 10.37dBi
The Max Power = Max tune up power

Conclusion:
The formula of calculated the MPE is:
CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1
CPD = Calculation power density
LPD = Limit of power density
WLAN 2.4GHz + WLAN 5GHz = 0.1709 + 0.6740 = 0.8449
Therefore the maximum calculations of above situations are less than the "1" limit.

For External antenna:

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462 (Original Approved)	26.13	7.01	38	0.1136	1
5180-5240 (Original Approved)	16.60	12.02	38	0.0401	1
5260-5320	16.93	12.02	38	0.0433	1
5500-5700	22.61	12.02	38	0.1600	1
5745-5825 (Original Approved)	29.79	12.02	38	0.8360	1

NOTE:
2.4GHz Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / 4]$ = 7.01dBi
5.0GHz Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / 4]$ = 12.02dBi
The Max Power = Max tune up power

Conclusion:
The formula of calculated the MPE is:
CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1
CPD = Calculation power density
LPD = Limit of power density
WLAN 2.4GHz + WLAN 5GHz = 0.1136 + 0.8360 = 0.9496
Therefore the maximum calculations of above situations are less than the "1" limit.

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