

RF Exposure Report

Report No.: SA170918D05A

FCC ID: 2AI9TOAW-AP125X

Test Model: OAW-AP1251

Received Date: May 8, 2017

Test Date: May 12 ~ Oct. 12, 2017

Issued Date: Dec. 8, 2017

Applicant: ALE USA Inc.

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

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**FCC Registration /
Designation Number:** 198487 / TW2021



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Release Control Record

Issue No.	Description	Date Issued
SA170918D05A	Original release.	Dec. 8, 2017

1 Certificate of Conformity

Product: OmniAccess Stellar
Brand: Alcatel-Lucent Enterprise
Test Model: OAW-AP1251
Sample Status: Engineering sample
Applicant: ALE USA Inc.
Test Date: May 12 ~ Oct. 12, 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.

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Approved by : Rex Lai , **Date:** Dec. 8, 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/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 35cm 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 (Original Approved)	27.49	11.32	31	0.6296	1
5180-5240 (Original Approved)	13.87	9.98	31	0.0201	1
5260-5320	15.91	9.44	31	0.0284	1
5500-5700	22.87	9.44	31	0.1410	1
5745-5825 (Original Approved)	26.46	9.44	31	0.3222	1

NOTE:

2.4GHz Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / 4] = 11.32\text{dBi}$

5.0GHz Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / 4] = 9.98\text{dBi}$ (For 5180-5240MHz)

5.0GHz Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / 4] = 9.44\text{dBi}$ (For 5260-5320MHz, 5500-5700MHz, 5745-5825MHz)

The Max Power = Max tune up power

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 = 0.6296 + 0.3222 = 0.9518

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

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