



RF EXPOSURE REPORT

REPORT NO.: SA140507C31A

MODEL NO.: WBSac-2450-ODDDDDD,
WBSac-2450-NADDDDDD ("D" can be any
alphanumeric value, "-" or blank, for software
changes or marketing purposes only.)

FCC ID: LKTWBSACO12450-1

RECEIVED: May 03, 2014

TESTED: May 10 ~ Jun. 21, 2014

ISSUED: Aug. 26, 2015

APPLICANT: Alvarion Technologies Ltd.

ADDRESS: 13-15 Ha'amal St. Park Afek, Rosh Ha'ayin
48091, ISRAEL

ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47, 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 Vil., Kwei
Shan Dist., Taoyuan City 33383, TAIWAN
(R.O.C.)

This report should not be used by the client to claim
product certification, approval, or endorsement by any
government agencies.

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.



TABLE OF CONTENTS

RELEASE CONTROL RECORD	3
1. CERTIFICATION	4
2. RF EXPOSURE.....	5
2.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE).....	5
2.2 MPE CALCULATION FORMULA	5
2.3 CLASSIFICATION	5
2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER.....	6



A D T

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140507C31A	Original release.	Aug. 26, 2015



1. CERTIFICATION

PRODUCT: Outdoor Access Point

MODEL: WBSac-2450-ODDDDDDD, WBSac-2450-NADDDDDDD ("D" can be any alphanumeric value, "-" or blank, for software changes or marketing purposes only.)

BRAND: Alvarion

APPLICANT: Alvarion Technologies Ltd.

TESTED: May 10 ~ Jun. 21, 2014

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: **FCC Part 2 (Section 2.1091)**

KDB 447498 D03

IEEE C95.1

The above equipment (Model: WBSac-2450-O-US) 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 : Celine Chou , **DATE :** Aug. 26, 2015
Celine Chou / Specialist

APPROVED BY : Ken Liu , **DATE :** Aug. 26, 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 27cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For Indoor Access Point

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
2412-2462	28.54	7.61	27	0.450	1
5180-5240	27.80	9.04	27	0.527	1
5745-5825	24.64	9.04	27	0.255	1

NOTE:

2.4GHz Band: Directional gain = 4.6dBi + 10log(2) = 7.61dBi

5.0GHz Band: Directional gain = 6.03dBi + 10log(2) = 9.04dBi

CONCLUSION:

Both of the WLAN 2.4G & WLAN 5G 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

WLAN 2.4G + WLAN 5.0G = 0.450 + 0.527 = 0.977

Therefore, the maximum calculation of this situation is 0.977, which is less than the "1" limit.

For Outdoor Access Point

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
2412-2462	28.54	7.61	23	0.620	1
5180-5240	11.94	9.04	23	0.019	1
5745-5825	24.64	9.04	23	0.351	1

NOTE:

2.4GHz Band: Directional gain = 4.6dBi + 10log(2) = 7.61dBi

5.0GHz Band: Directional gain = 6.03dBi + 10log(2) = 9.04dBi

CONCLUSION:

Both of the WLAN 2.4G & WLAN 5G 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

$WLAN\ 2.4G + WLAN\ 5.0G = 0.620 + 0.351 = 0.971$

Therefore, the maximum calculation of this situation is 0.971, which is less than the "1" limit.