



# RF EXPOSURE REPORT

**REPORT NO.:** SA120220C10

**MODEL NO.:** AW-NB101

**FCC ID:** TLZ-NB101

**RECEIVED:** Feb. 20, 2012

**TESTED:** Feb. 29 ~ Mar. 20, 2012

**ISSUED:** Mar. 22, 2012

**APPLICANT:** AzureWave Technologies, Inc.

**ADDRESS:** 8F., No.94, Baozhong Rd., Xindian Dist.,  
New Taipei City 231, Taiwan

**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 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
SA120220C10	Original release	Mar. 22, 2012



## 1. CERTIFICATION

**PRODUCT:** IEEE 802.11b/g/n/ BT Combo Slim Module  
**MODEL NO.:** AW-NB101  
**BRAND:** AzureWave  
**APPLICANT:** AzureWave Technologies, Inc.  
**TESTED:** Feb. 29 ~ Mar. 20, 2012  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**STANDARDS:** **FCC Part 2 (Section 2.1091)**  
**FCC OET Bulletin 65, Supplement C (01-01)**  
**IEEE C95.1**

The above equipment (model: AW-NB101) 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 : Andrea Hsia , DATE : Mar. 22, 2012  
Andrea Hsia / Specialist

APPROVED BY : Gary Chang , DATE : Mar. 22, 2012  
Gary Chang / Technical 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 <sup>2</sup> )	AVERAGE TIME (minutes)
<b>LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE</b>				
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/cm<sup>2</sup>

$P_{out}$  = 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 20cm 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 <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412-2462	23.21	2.54	20	0.075	1
2402-2408	8.71	2.54	20	0.003	1

### CONCLUSION:

Both of the WLAN 2.4G & Bluetooth 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 + Bluetooth =  $0.075 + 0.003 = 0.078$

Therefore, the maximum calculation of this situation is 0.078, which is less than the "1" limit.