

## RF Exposure Report

**Report No.:** SA160304D03B

**FCC ID:** NCI-VAB820-WA1

**Test Model:** VAB-820-W

**Received Date:** Apr. 22, 2016

**Test Date:** Apr. 26 ~ 29, 2016

**Issued Date:** Nov. 23, 2016

**Applicant:** VIA Technologies, Inc

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

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### Release Control Record

Issue No.	Description	Date Issued
SA160304D03B	Original release.	Nov. 23, 2016

## 1 Certificate of Conformity

**Product:** 11n+BT WiFi Board

**Brand:** VIA

**Test Model:** VAB-820-W

**Sample Status:** Engineering sample

**Applicant:** VIA Technologies, Inc

**Test Date:** Apr. 26 ~ 29, 2016

**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:** Nov. 23, 2016  
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 <sup>2</sup> )	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<sup>2</sup>

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 20cm away from the body of the user.

So, this device is classified as **Mobile Device**.

### 3 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> )
2402-2480 (BT EDR)	6.02	2	20	0.0013	1
2402-2480 (BT LE)	6.59	2	20	0.0014	1
2412-2462 (WLAN)	22.48	2	20	0.0558	1

#### CONCLUSION:

Both of the WLAN & 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

$WLAN + BT LE = 0.0558 + 0.0014 = 0.0572$

Therefore, the maximum calculation of this situation is 0.0572, which is less than the "1" limit.

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