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
Address:	8F, No.535, Zhongzheng Rd., Xindian Dist, New Taipei City 231,Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

Testing Laboratory
2021

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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.

Prepared by : Annie Chang , **Date:** Nov. 23, 2016

Annie Chang / Senior Specialist

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^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 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^2)	Limit (mW/cm^2)
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

CONCULSION:

Both of the WLAN & Bluetooth can transmit simultaneously, the formula of calculated the MPE is:
CPD1 / LPD1 + CPD2 / LPD2 + ……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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