

RF Exposure Report

Report No.: SA160817C08

FCC ID: 2AJRV-TORCH1

Test Model: Torch Router

Received Date: Aug. 17, 2016

Test Date: Aug. 29 ~ Sep. 14, 2016

Issued Date: Sep. 20, 2016

Applicant: Vesta 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
SA160817C08	Original release.	Sep. 20, 2016

1 Certificate of Conformity

Product: Wireless Device

Brand: Torch

Test Model: Torch Router

Sample Status: Engineering sample

Applicant: Vesta Technologies Inc.

Test Date: Aug. 29 ~ Sep. 14, 2016

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D01 (October 23, 2015)
IEEE C95.1

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 : , **Date:** Sep. 20, 2016
Polly Chien / Specialist

Approved by : , **Date:** Sep. 20, 2016
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 26cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result Of Maximum Conducted Power

Frequency Band	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462 MHz	28.23	8.77	26	0.590	1
5180-5240 MHz	23.98	10.67	26	0.343	1
5745-5825 MHz	24.55	10.67	26	0.392	1

Note:

2412-2462MHz Band: Directional gain = 4dBi + 10log(3) = 8.77dBi

5180-5240MHz & 5745-5825MHz Band: Directional gain = 5.9dBi + 10log(3) = 10.67dBi

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4G + WLAN 5.0G = 0.590 + 0.392 = 0.982

Therefore, the maximum calculation of this situation is 0.982, which is less than the "1" limit.

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