

## RF Exposure Report

**Report No.:** SA180109C12

**FCC ID:** PD5-LM-WESA0440A

**Model:** LM-WESA0440A

**Received Date:** Jan. 09, 2018

**Test Date:** Jan. 31 ~ Feb. 13, 2018

**Issued Date:** Feb. 21, 2018

**Applicant:** Delta Networks, Inc.

**Address:** No. 252, Shang Ying Rd., Kuei San District, Taoyuan City 33341, 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.

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)



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**Release Control Record**

Issue No.	Description	Date Issued
SA180109C12	Original release	Feb. 21, 2018

## 1 Certificate of Conformity

**Product:** 802.11 b/g/n/ac WIFI AP

**Model:** LM-WESA0440A


**Sample Status:** Engineering sample

**Applicant:** Delta Networks, Inc.

**Test Date:** Jan. 31 ~ Feb. 13, 2018

**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D03 (January 17, 2014)  
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 RF characteristics under the conditions specified in this report.

**Prepared by :**  , **Date:** Feb. 21, 2018  
Pettie Chen / Senior Specialist

**Approved by :**  , **Date:** Feb. 21, 2018  
Bruce Chen / Project Engineer

## 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

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

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 37cm 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> )
CDD Mode					
2412-2462	29.52	9.45	37	0.459	1
5180-5240	29.79	9.02	37	0.442	1
5745-5825	29.53	9.74	37	0.491	1
Beamforming Mode					
2412-2462	23.99	9.45	37	0.128	1
5180-5240	25.11	9.02	37	0.150	1
5745-5825	25.01	9.74	37	0.174	1

Note:

For 2412-2462MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/4] = 9.45\text{dBi}$

For 5180-5240MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/4] = 9.02\text{dBi}$

For 5745-5825MHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/4] = 9.74\text{dBi}$

#### Conclusion:

2.4GHz & 5GHz can transmit at same time.

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 2.4GHz + WLAN 5GHz = 0.459 + 0.491 = 0.950

Therefore the maximum calculations of above situations are less than the "1" limit.

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