RF Exposure Report

Report No.: SA180109C12A

FCC ID: PD5-LM-WESA0440A

Model: LM-WESA0440A

Received Date: Jan. 09, 2018

Test Date: Feb. 01 ~ Mar. 19, 2018

Issued Date: May 17, 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.)

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SA180109C12A	Original release	May 17, 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: Feb. 01 ~ Mar. 19, 2018

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 RF characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** _____ May 17, 2018

Pettie Chen / Senior Specialist

Approved by : _____ , **Date:** _____ May 17, 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^2)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f^2)*	30
30-300	27.5	0.073	0.2	30
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 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/cm²)	Limit (mW/cm²)
CDD Mode					
2412-2462	29.52	9.45	37	0.459	1
5180-5240	29.79	9.02	37	0.442	1
5250-5350	23.91	9.15	37	0.118	1
5470-5725	23.73	9.50	37	0.122	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
5250-5350	19.41	9.15	37	0.042	1
5470-5725	19.23	9.50	37	0.043	1
5745-5825	25.01	9.74	37	0.174	1

Note:

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

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

For 5250-5350MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20 + ... +} 10^{GN/20})^2/4]$= 9.15dBi

For 5470-5725MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20 + ... +} 10^{GN/20})^2/4]$= 9.50dBi

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

Conclusion:

2.4GHz & 5GHz can transmit at same time.

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……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.

---END---