

## RF Exposure Report

**Report No.:** SABHJS-WTW-P21030983

**FCC ID:** PD5-LM-WESA04FR

**Test Model:** LM-WESA0440A

**Received Date:** Mar. 26, 2021

**Date of Evaluation:** May 18, 2021

**Issued Date:** May 20, 2021

**Applicant:** Delta Electronics, Inc.

**Address:** 31-1 Shien Pan Rd., Kuei San Industrial Zone, Taoyuan City, 333 Taiwan

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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

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

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SABHJS-WTW-P21030983	Original Release	May 20, 2021

## 1 Certificate of Conformity

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

**Test Model:** LM-WESA0440A

**Sample Status:** Engineering Sample

**Applicant:** Delta Electronics, Inc.

**Date of Evaluation:** May 18, 2021

**Standards:** FCC Part 2 (Section 2.1091)

**References Test Guidance :** KDB 447498 D01 General RF Exposure Guidance v06

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 :** Gina Liu, **Date:** May 20, 2021

Gina Liu / Specialist

**Approved by :** Dylan Chiou, **Date:** May 20, 2021

Dylan Chiou / Senior 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				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	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 ; \*Plane-wave equivalent power density

### 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 36cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 2.4 Calculation Result of Maximum Conducted Power

Band	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
<b>CDD Mode</b>						
WLAN	2412-2462	29.35	9.45	36	0.466	1.00
	5180-5240	29.62	9.02	36	0.449	1.00
	5260-5320	23.80	9.15	36	0.121	1.00
	5500-5700	23.56	9.50	36	0.124	1.00
	5745-5825	29.47	9.74	36	0.512	1.00
<b>Beamforming Mode</b>						
WLAN	2412-2462	26.32	9.45	36	0.232	1.00
	5180-5240	26.96	9.02	36	0.243	1.00
	5260-5320	20.80	9.15	36	0.061	1.00
	5500-5700	23.52	9.50	36	0.123	1.00
	5745-5825	25.90	9.74	36	0.225	1.00

**Note:**

- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible
- 2.4GHz: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/4] = 9.45\text{dBi}$   
 5.0GHz: For U-NII-1: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/4] = 9.02\text{dBi}$   
 For U-NII-2A: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/4] = 9.15\text{dBi}$   
 For U-NII-2C: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/4] = 9.50\text{dBi}$   
 For U-NII-3: Directional gain =  $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/4] = 9.74\text{dBi}$

**Conclusion:**

Both of the 2.4GHz and 5GHz 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

$$\text{WLAN 2.4GHz} + \text{WLAN 5GHz} = 0.466 + 0.512 = 0.978$$

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

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