RF Exposure Report

Report No.: SABHJS-WTW-P21050503

FCC ID: PD5-LM-WESA04OR

Test Model: LM-WESA0440A-OR

Received Date: May 13. 2021

Test Date: May 25 ~ Jun. 01, 2021

Issued Date: Jun. 21, 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-P21050503	Original release	Jun. 21, 2021

1   Certificate of Conformity

Product:	802.11 b/g/n/ac WIFI AP
Test Model:	LM-WESA0440A-OR
Sample Status:	Engineering sample
Applicant:	Delta Electronics, Inc.
Test Date:	May 25 ~ Jun. 01, 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 : _Celine Chou_ , **Date:** Jun. 21, 2021

Celine Chou / Senior Specialist

Approved by : _Bruce Chen_ , **Date:** Jun. 21, 2021

Bruce Chen / 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^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 32m 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 AV Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
CDD Mode					
2412-2462	29.47	7.27	32	0.367	1.00
5180-5240	17.42	9.47	32	0.038	1.00
5260-5320	22.79	9.47	32	0.131	1.00
5500-5700	23.98	9.26	32	0.164	1.00
5745-5825	29.50	9.51	32	0.619	1.00
Beamforming Mode					
2412-2462	26.98	7.27	32	0.207	1.00
5180-5240	13.81	9.47	32	0.017	1.00
5260-5320	20.29	9.47	32	0.074	1.00
5500-5700	20.73	9.26	32	0.078	1.00
5745-5825	25.99	9.51	32	0.276	1.00

Note:
1. Max tune-up power (including tune-up tolerance) = Max power.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
3. 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.

2412-2462MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4]$ = 7.27dBi.
5180-5240MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4]$ = 9.47dBi.
5260-5320MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4]$ = 9.47dBi.
5500-5700MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4]$ = 9.26dBi.
5745-5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/4]$ = 9.51dBi.

Conclusion:

Both of the WLAN 2.4G & WLAN 5G 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

2.4GHz + 5GHz = 0.367 / 1 + 0.619 / 1 = 0.986 < 1

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