

RF Exposure Report

Report No.: SA191025C12

FCC ID: PD5-DVW-W01I2-E1

Test Model: DVW-W01I2-E1

Series Model: DVW-W01I2-E1-CN, DVW-W01I2-E1-EU

Received Date: Oct. 25, 2019

Test Date: Oct. 31 ~ Nov. 04, 2019

Issued Date: Nov. 14, 2019

Applicant: Delta Electronics, Inc.

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

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FCC Registration / 788550 / TW0003

Designation Number:



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Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 RF Exposure	5
2.1 Limits for Maximum Permissible Exposure (MPE)	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
3 Calculation Result of Maximum Conducted Power	5

Release Control Record

Issue No.	Description	Date Issued
SA191025C12	Original release.	Nov. 14, 2019

1 Certificate of Conformity

Product: Wireless AP/Client/Gateway

Brand: Delta

Test Model: DVW-W01I2-E1

Series Model: DVW-W01I2-E1-CN, DVW-W01I2-E1-EU

Sample Status: Engineering sample

Applicant: Delta Electronics, Inc.

Test Date: Oct. 31 ~ Nov. 04, 2019

Standards: FCC Part 2 (Section 2.1091)

References Test KDB 447498 D01 General RF Exposure Guidance v06

Guidance: IEEE C95.3 -2002

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:

Nov. 14, 2019

Polly Chien / Specialist

Approved by :



Date:

Nov. 14, 2019

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

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

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 20cm 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 ²)	Limit (mW/cm ²)
WLAN 2412~2462	24.31	5.79	20	0.204	1
WLAN 5180~5240	21.31	6.22	20	0.113	1
WLAN 5745~5825	21.60	6.22	20	0.120	1

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

$$2412\sim2462\text{MHz Directional Gain} = 2.78\text{dBi} + 10\log(2) = 5.79\text{dBi}$$

$$5180\sim5825\text{MHz Directional Gain} = 3.21\text{dBi} + 10\log(2) = 6.22\text{dBi}$$

Conclusion:

The formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

$$2.4\text{GHz} + 5\text{GHz} = 0.204 / 1 + 0.120 / 1 = 0.324 < 1$$

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

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