

## RF Exposure Report

**Report No.:** SA170801E03

**FCC ID:** SUZ-WD518

**Test Model:** WD518

**Received Date:** Aug. 01, 2017

**Test Date:** Sep. 08, 2017

**Issued Date:** Sep. 15, 2017

**Applicant:** Coretronic Corp.

**Address:** No. 11, Li Hsing Rd, Science-Based Industrial Park, Hsinchu, Taiwan.

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

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### Release Control Record

| Issue No.   | Description       | Date Issued   |
|-------------|-------------------|---------------|
| SA170801E03 | Original release. | Sep. 15, 2017 |

## 1 Certificate of Conformity

**Product:** USB WiFi dongle

**Brand:** DELL,Coretronic

**Test Model:** WD518

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Coretronic Corp.

**Test Date:** Sep. 08, 2017

**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 EMC characteristics under the conditions specified in this report.

**Prepared by** : Wendy Wu , **Date:** Sep. 15, 2017  
Wendy Wu / Specialist

**Approved by :** May Chen , **Date:** Sep. 15, 2017  
May Chen / Manager

## 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

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

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 20cm away from the body of the user.  
So, this device is classified as **Mobile Device**.

### 2.4 Antenna Gain

| Antenna No. | PCB Chain No. | Antenna Gain (dBi) | Frequency range (GHz) | Antenna Type | Connector Type | Cable Length |
|-------------|---------------|--------------------|-----------------------|--------------|----------------|--------------|
| 1           | Chian0        | 0.66               | 2.4-2.4835            | IFA          | Soldering      | NO           |
| 2           | Chian1        | 0.54               | 2.4-2.4835            | IFA          | Soldering      | NO           |

## 2.5 Calculation Result

| Frequency Band (MHz) | Max. Tune-up Power (dBm) | Max. Tune-up Power (mW) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|----------------------|--------------------------|-------------------------|--------------------|---------------|-------------------------------------|-----------------------------|
| 2412-2462            | 23                       | 199.526                 | 3.61               | 20            | 0.09114                             | 1                           |

**NOTE:**

1. Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 3.61\text{dBi}$
2. This power included tune-up tolerance range that specified in WD518 tune-up power table.

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