

## RF Exposure Report

**Report No.:** SA190103E04

**FCC ID:** NKR-CC1

**Test Model:** CC1

**Received Date:** Jan. 03, 2019

**Test Date:** Jan. 23, 2019

**Issued Date:** Feb. 15, 2019

**Applicant:** Wistron NeWeb Corp.

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
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**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan R.O.C.

**FCC Registration /  
Designation Number:** 723255 / TW2022

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### Release Control Record

Issue No.	Description	Date Issued
SA190103E04	Original release.	Feb. 15, 2019

## 1 Certificate of Conformity

**Product:** AP

**Brand:** WNC

**Test Model:** CC1

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** Wistron NeWeb Corp.

**Test Date:** Jan. 23, 2019


**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 :**  , **Date:** Feb. 15, 2019  
Claire Kuan / Specialist

**Approved by :**  , **Date:** Feb. 15, 2019  
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

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

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

## 2.4 Antenna Gain

<b>WLAN Directional gain table</b>			
Frequency range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Antenna Connector
2.4 ~ 2.5	3.52	PIFA	i-pex(MHF)
5.15 ~ 5.85	5.53		
<b>Bluetooth antenna spec.</b>			
Frequency range (GHz)	Antenna Net Gain (dBi)	Antenna Type	Antenna Connector
2.4 ~ 2.4835	0	CHIP	NA

Note: More detailed information, please refer to operating description.

## 2.5 Calculation Result of Maximum Conducted Power

Operation Mode	Evaluation Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN 2.4GHz	2437	445.654	3.52	20	0.19940	1
WLAN 5GHz	5755	438.753	5.53	20	0.31185	1
Bluetooth	2402	1.578	0	20	0.00031	1

Note:

2.4GHz: Directional gain = 3.52dBi

5GHz: Directional gain = 5.53dBi

### 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

$WLAN\ 2.4GHz + WLAN\ 5GHz + Bluetooth = 0.19940 / 1 + 0.31185 / 1 + 0.00031 / 1 = 0.51156$

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

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