

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,
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**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

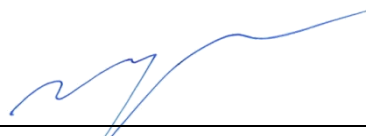
Standards: FCC Part 2 (Section 2.1091)

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 ²)	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 ²)*	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

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

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**.

2.4 Antenna Gain

WLAN Directional gain table			
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		
Bluetooth antenna spec.			
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 ²)	Limit (mW/cm ²)
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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