

## RF Exposure Report

**Report No.:** MFBHKI-WTW-P22030766

**FCC ID:** NKRUMC-STD31LFN

**Test Model:** UMC-STD31LFN

**Received Date:** Mar. 18, 2022

**Test Date:** Apr. 06 ~ Apr. 15, 2022

**Issued Date:** Jul. 04, 2022

**Applicant:** Wistron NeWeb Corporation

**Address:** 20 Park Ave. II, Hsinchu Science Park, Hsinchu 308, 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
MFBHKI-WTW-P22030766	Original release	Jul. 04, 2022

## 1 Certificate of Conformity

**Product:** Cellular module

**Brand:** WNC

**Test Model:** UMC-STD31LFN

**Sample Status:** Engineering sample

**Applicant:** Wistron NeWeb Corporation

**Test Date:** Apr. 06 ~ Apr. 15, 2022

**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 :** Pettie Chen , **Date:** Jul. 04, 2022  
Pettie Chen / Senior Specialist

**Approved by :** Jeremy Lin , **Date:** Jul. 04, 2022  
Jeremy Lin / 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 <sup>2</sup> )	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

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

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 22cm away from the body of the user. So, this device is classified as **Mobile Device**.

### 3 Calculation Result of Maximum Conducted Power

Mode	Max ERP Power (dBm)	Max EIRP Power (dBm)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
GPRS 850	32.84	34.99	22	0.519	0.549
GPRS 1900	-	31.58	22	0.237	1.000
WCDMA Band 2	-	24.96	22	0.052	1.000
WCDMA Band 5	22.94	25.09	22	0.053	0.549
LTE Band 2	-	24.93	22	0.051	1.000
LTE Band 4	-	24.63	22	0.048	1.000
LTE Band 5	23.03	25.18	22	0.054	0.549
LTE Band 7	-	24.84	22	0.050	1.000
LTE Band 12	22.68	24.83	22	0.050	0.466
LTE Band 17	22.78	24.93	22	0.051	0.471
LTE Band 25	-	24.78	22	0.049	1.000
LTE Band 26 (Part 22)	23.02	25.17	22	0.054	0.543
LTE Band 26 (Part 90)	23.02	25.17	22	0.054	0.543
LTE Band 66	-	24.50	22	0.046	1.000
LTE Band 71	23.19	25.34	22	0.056	0.444

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2.  $EIRP = ERP + 2.15dB$

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