

## RF Exposure Report

**Report No.:** SA180430C25

**FCC ID:** NKRA18QA

**Test Model:** UMC-18QA

**Received Date:** Apr. 30, 2018

**Date of Evaluation:** May 22, 2018

**Issued Date:** May 25, 2018

**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

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

**Test Location:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Vil, Kwei Shan Dist., Taoyuan City 33383, Taiwan (R.O.C)

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SA180430C25	Original Release	May 25, 2018

## 1 Certificate of Conformity

**Product:** LTE Module

**Brand:** Wistron NeWeb Corp.

**Test Model:** UMC-18QA

**Sample Status:** Identical Prototype

**Applicant:** Wistron NeWeb Corporation

**Date of Evaluation:** May 22, 2018

**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 :** Rona Chen , **Date:** May 25, 2018  
Rona Chen / Specialist

**Approved by :** Dylan Chiou , **Date:** May 25, 2018  
Dylan Chiou / 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				
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 Type	Antenna Gain (dBi)			
	WCDMA Band II / LTE Band 2	LTE Band 4	WCDMA Band V / LTE Band 5	LTE Band 13
Metal Antenna	3.5	5.5	1.5	1.0

## 2.5 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WCDMA Band II (1852.4 ~ 1907.6 MHz)	25.7	371.535	3.5	20	0.165	1.000
WCDMA Band V (826.4 ~ 846.6 MHz)	25.7	371.535	1.5	20	0.104	0.557
LTE Band 2 (1850.7 ~ 1909.3 MHz)	25.7	371.535	3.5	20	0.165	1.000
LTE Band 4 (1710.7 ~ 1754.3 MHz)	25.7	371.535	5.5	20	0.262	1.000
LTE Band 5 (824.7 ~ 848.3 MHz)	25.7	371.535	1.5	20	0.104	0.552
LTE Band 13 (779.5 ~ 784.5 MHz)	25.7	371.535	1.0	20	0.093	0.521

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