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 : , **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^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

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

where

Pd = power density in mW/cm^2

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

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^2)	Limit (mW/cm^2)
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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