RF Exposure Evaluation Declaration

FCC ID:	2AJYU-8EC0002
Application:	SIMCom Wireless Solutions Limited
Application Type:	Certification
Product:	Wireless MODULE
Model No.:	SIM7028
Brand Name:	SIMCOM
Test Procedure(s):	KDB 447498 D01v06
Test Date:	September 07 ~ October 17, 2021

Reviewed By: Sunny Sun

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date	Note
2109RSU011-U48	Rev. 01	Initial Report	11-13-2021	Valid

1. GENERAL INFORMATION

1.1. Applicant

SIMCom Wireless Solutions Limited

No.633 Jinzhong Road, Shanghai, China

1.2. Manufacturer

SIMCom Wireless Solutions Limited

No.633 Jinzhong Road, Shanghai, China

1.3. Testing Facility

<table>
<tr><td>☒</td><td colspan="5">Test Site - MRT Suzhou Laboratory</td></tr>
<tr><td></td><td colspan="5">Laboratory Location (Suzhou - Wuzhong)
D8 Building, No.2 Tian’edang Rd., Wuzhong Economic Development Zone, Suzhou, China
Laboratory Location (Suzhou - SIP)
4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China</td></tr>
<tr><td></td><td colspan="5">Laboratory Accreditations</td></tr>
<tr><td></td><td colspan="5">A2LA: 3628.01 CNAS: L10551
FCC: CN1166 ISED: CN0001
VCCI: ☐R-20025 ☐G-20034 ☐C-20020 ☐T-20020
☐R-20141 ☐G-20134 ☐C-20103 ☐T-20104</td></tr>
<tr><td>☐</td><td colspan="5">Test Site - MRT Shenzhen Laboratory</td></tr>
<tr><td></td><td colspan="5">Laboratory Location (Shenzhen)
1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China</td></tr>
<tr><td></td><td colspan="5">Laboratory Accreditations</td></tr>
<tr><td></td><td colspan="5">A2LA: 3628.02 CNAS: L10551
FCC: CN1284 ISED: CN0105</td></tr>
<tr><td>☐</td><td colspan="5">Test Site - MRT Taiwan Laboratory</td></tr>
<tr><td></td><td colspan="5">Laboratory Location (Taiwan)
No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)</td></tr>
<tr><td></td><td colspan="5">Laboratory Accreditations</td></tr>
<tr><td></td><td colspan="5">TAF: L3261-190725
FCC: 291082, TW3261 ISED: TW3261</td></tr>
</table>

1.4. Product Information

Product Name	Wireless MODULE
Model No.	SIM7028
Brand Name	SIMCOM
IMEI	863266050008153
Operating Temp.	-40 ~ 85 °C
Supply Voltage	3.0 ~ 4.3Vdc, typical 3.7Vdc
NB-IoT Specification	
Single Band	NB-IoT Band 2, 4, 5, 12, 13, 14, 17, 25, 26, 66
Modulation	BPSK, QPSK
Category	Cat NB2
Sub-carrier Spacing	3.75kHz, 15kHz
Remark: 1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

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

Pd is the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	Wireless MODULE
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum Conducted Power (dBm)	Antenna Gain (dBi)	ERP (EIRP) (dBm)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
LTE B2	1850 ~ 1910	23.70	9.30	33.00	0.3969	1.0000
LTE B4	1710 ~ 1755	23.70	6.30	30.00	0.1989	1.0000
LTE B5	824 ~ 849	23.70	6.30	30.00	0.1989	0.5493
LTE B12	699 ~ 716	23.70	6.30	30.00	0.1989	0.4660
LTE B13	777 ~ 787	23.70	6.30	30.00	0.1989	0.5180
LTE B14	788 ~ 798	23.70	6.30	30.00	0.1989	0.5253
LTE B17	704 ~ 716	23.70	6.30	30.00	0.1989	0.4693
LTE B25	1850 ~ 1915	23.70	9.30	33.00	0.3969	1.0000
LTE B26	814 ~ 849	23.70	6.30	30.00	0.1989	0.5427
LTE B66	1710 ~ 1780	23.70	6.30	30.00	0.1989	1.0000

The End

Appendix A – EUT Photograph

Refer to “2109RSU011-UE” file.