

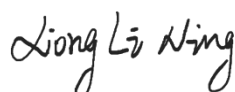
TEST REPORT

Applicant: SIMCom Wireless Solutions Limited
Address: SIMCom Headquarters Building, Building 3, No.289
Linhong Road, Changning District, Shanghai, China
Equipment Type: SIMCom Module
Model Name: SIM8260G-M2
Brand Name: SIMCom
FCC ID: 2AJYU-8XN0005
Test Standard: 47 CFR Part 2.1091
KDB 447498 D04 v01
Sample Arrival Date: Feb. 20, 2023
Test Date: Feb. 21, 2023 - Apr. 23, 2023
Date of Issue: Jul. 26, 2023

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xiong Lining



Checked by: Xu Rui



Approved by: Tolan Tu
(Testing Director)



Revision History		
Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Jul. 26, 2023</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	<input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	SIMCom Wireless Solutions Limited
Address	SIMCom Headquarters Building, Building 3, No.289 Linhong Road, Changning District, Shanghai, China

2.2 Manufacturer Information

Manufacturer	SIMCom Wireless Solutions Limited
Address	SIMCom Headquarters Building, Building 3, No.289 Linhong Road, Changning District, Shanghai, China

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	SIMCom Module
Model Name Under Test	SIM8260G-M2
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	V1.03
Software Version	2212B03V02X62M44A-M2
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.5 Ancillary Equipment

Note: Not applicable.

2.6 Technical Information

Network and Wireless connectivity	<p>3G Network WCDMA/HSDPA/HSUPA Band 2/4/5</p> <p>4G Network FDD LTE Band 2/4/5/7/12/13/14/17/18/19/25/26/30/66/71 TDD LTE Band 38/41/42/43/48</p> <p>LTE CA Uplink (UL): CA_2C, CA_5B, CA_7C, CA_38C, CA_41C, CA_42C, CA_48C, CA_66C</p> <p>5G Network SA: NR n2/n5/n7/n12/n13/n14/n18/n25/n26/n30/n38/n41/n48/n66/n71/n77/n78 SA UL MIMO: n41/n48/n77/n78</p> <p>NSA(EN-DC): DC_2A_n66A, DC_5A_n66A, DC_7A_n66A, DC_12A_n66A, DC_2A_n7A, DC_5A_n7A, DC_66A_n7A, DC_7A_n5A, DC_66A_n5A, DC_2A_n71A, DC_66A_n71A, DC_2A_n41A, DC_66A_n41A, DC_18A_n77A, DC_19A_n77A, DC_41A_n77A, DC_42A_n77A, DC_18A_n78A, DC_19A_n78A, DC_26A_n78A, DC_2A_n78A, DC_7A_n78A, DC_41A_n78A, DC_42A_n78A</p> <p>GPS, GLONASS, Beidou, Galileo, QZSS</p>
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The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	WCDMA, LTE, NR		
Frequency Range	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 13	TX: 777 ~ 787 MHz	RX: 746 ~ 756 MHz
	LTE Band 14	TX: 788 ~ 798 MHz	RX: 758 ~ 768 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE B18	TX: 815 ~ 830 MHz	RX: 875 ~ 890 MHz
	LTE B19	TX: 830 ~ 845 MHz	RX: 875 ~ 890 MHz
	LTE B25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	LTE B26	TX: 814 ~ 824 MHz &824 ~ 849 MHz	RX: 859 ~ 869 MHz &869 ~ 894 MHz
	LTE B30	TX: 2305 ~ 2315 MHz	RX: 2350 ~ 2360 MHz
	LTE B38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	LTE B41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	LTE B42	TX: 3450 ~ 3550 MHz	RX: 3450 ~ 3550 MHz
LTE B43	TX: 3700 ~ 3800 MHz	RX: 3700 ~ 3800 MHz	
LTE B48	TX: 3550 ~ 3700 MHz	RX: 3550 ~ 3700 MHz	

	LTE B66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	LTE B71	TX: 663 ~ 698 MHz	RX: 617 ~ 652 MHz
	NR n2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	NR n5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	NR n7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	NR n12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	NR n13	TX: 746 ~ 756 MHz	RX: 777 ~ 787 MHz
	NR n14	TX: 758 ~ 768 MHz	RX: 788 ~ 798 MHz
	NR n18	TX: 815 ~ 824 MHz & 824 ~ 830 MHz	RX: 860 ~ 869 MHz & 869 ~ 875 MHz
	NR n25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	NR n26	TX: 814 ~ 824 MHz & 824 ~ 849 MHz	RX: 859 ~ 869 MHz & 869 ~ 894 MHz
	NR n30	TX: 2305 ~ 2315 MHz	RX: 2350 ~ 2360 MHz
	NR n38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	NR n41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	NR n48	TX: 3550 ~ 3700 MHz	RX: 3550 ~ 3700 MHz
	NR n66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	NR n71	TX: 663 ~ 698 MHz	RX: 617 ~ 652 MHz
	NR n77	TX: 3450 ~ 3550 MHz & 3550 ~ 3700 MHz & 3700 ~ 3980 MHz	RX: 3450 ~ 3550 MHz & 3550 ~ 3700 MHz & 3700 ~ 3980 MHz
	NR n78	TX: 3450 ~ 3550 MHz & 3550 ~ 3700 MHz & 3700 ~ 3800 MHz	RX: 3450 ~ 3550 MHz & 3550 ~ 3700 MHz & 3700 ~ 3800 MHz
Antenna Type	WWAN: PIFA Antenna		
Exposure Category	General Population/Uncontrolled Exposure		
EUT Type	Mobile Device		

Note1: All ENDC bands support Power Class 3 only.

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1091	Radiofrequency radiation exposure evaluation: mobile devices
2	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01

Note: Compared with the EUT of test report BL-SZ2310633-701, the EUT of this report update Model Name and FCC ID. Other hardware circuits and software are the same as EUT referred in test report BL-SZ2310633-701.

Therefore, all test data please refer to report BL-SZ2310633-701, which was issued by Shenzhen BALUN Technology Co., Ltd. on Jun. 01, 2023.

4 DEVICE CATEGORY AND LEVELS LIMITS

Mobile Device:

CFR Title 47 §2.1091(b)

(b) For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

FCC KDB 447498 D04 General RF Exposure Guidance v01 Limit

Evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP_{20cm} in Formula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i. e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad \text{(B. 2)}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20\text{cm}}$ is per Formula (B.1). The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)									
	5	10	15	20	25	30	35	40	45	50
300	39	65	88	110	129	148	166	184	201	217
450	22	44	67	89	112	135	158	180	203	226
835	9	25	44	66	90	116	145	175	207	240
1900	3	12	26	44	66	92	122	157	195	236
2450	3	10	22	38	59	83	111	143	179	219
3600	2	8	18	32	49	71	96	125	158	195
5800	1	6	14	25	40	58	80	106	136	169

5 ASSESSMENT RESULT

5.1 Output Power

2/3/4/5G					
Mode	MAX.WCDMA Bands	MAX.LTE-FDD Bands	MAX.LTE-TDD Bands	MAX.5G Sub-6 Bands(PC3)	MAX.5G Sub-6 Bands (n41 n77 n78 PC2)
Conducted Power (dBm)	24.00	25.00	25.00	25.00	28.00
Antenna Gain (dBi)	1.58	1.63	1.44	1.58	1.13
EIRP (dBm)	25.58	26.63	26.44	26.58	29.13

Note: This report listed the worst case conducted power value, please refer to BL-SZ2310633-503 report for more details.

5.2 Tune-up power

Mode	Conducted Power Range (dBm)	EIRP Range (dBm)	ERP Range (dBm)
MAX.WCDMA Bands	[22.00,24.00]	[24.00,26.00]	[21.85,23.85]
MAX.LTE-FDD Bands	[23.00,25.00]	[25.00,27.00]	[22.85,24.85]
MAX.LTE-TDD Bands	[23.00,25.00]	[25.00,27.00]	[22.85,24.85]
MAX.5G Sub-6 Bands (PC3)	[23.00,25.00]	[25.00,27.00]	[22.85,24.85]
MAX.5G Sub-6 Bands (n41 n77 n78 PC2)	[26.00,28.00]	[27.50,29.50]	[25.35,27.35]

Note1: ERP= EIRP -2.15dB
Note2: According KDB 447498 D04, used the greater of maximum conducted power and ERP to compare with the threshold value Pth.

5.3 RF Exposure Evaluation Result

Evolution mode	Frequency (Ghz)	Maximum power (dBm)	Maximum power (mw)	Distance (mm)	Threshold Power (mW)	Power / Limit	Verdict
MAX.WCDMA Band	0.824	24.00	251.19	200	1680.96	0.15	Pass
MAX.LTE-FDD Bands	0.663	25.00	316.23	200	1352.52	0.23	Pass
MAX.LTE-TDD Bands	2.496	25.00	316.23	200	3060.00	0.10	Pass
MAX.5G Sub-6 Bands(PC3)	0.663	25.00	316.23	200	1352.52	0.23	Pass
MAX.5G Sub-6 Bands (n41 n77 n78 PC2)	2.496	28.00	630.96	200	3060.00	0.21	Pass

5.4 Collocated Power Calculation

Evolution mode	Frequency(GHz)	Power /Limit	Σ (Power / Limit) of LTE + 5G Bands	Verdict
MAX.LTE-FDD Bands	0.663	0.23	0.46	Pass
MAX.5G Sub-6 Bands(PC3)	0.663	0.23		
MAX.LTE-TDD Bands	2.570	0.10	0.33	
MAX.5G Sub-6 Bands(PC3)	0.663	0.23		

Note:

1. Σ (Power / Limit): This is a summation of [(power for each transmitter/ antenna included in the simultaneous transmission)/ (corresponding Power limit)], for DC_2A_n66A, DC_5A_n66A, DC_7A_n66A, DC_12A_n66A, DC_2A_n7A, DC_5A_n7A, DC_66A_n7A, DC_7A_n5A, DC_66A_n5A, DC_2A_n71A, DC_66A_n71A, DC_2A_n41A, DC_66A_n41A, DC_18A_n77A, DC_19A_n77A, DC_41A_n77A, DC_42A_n77A, DC_18A_n78A, DC_19A_n78A, DC_26A_n78A, DC_2A_n78A, DC_7A_n78A, DC_41A_n78A, DC_42A_n78A.
2. Both of the LTE/5G Bands can transmit simultaneously, the formula of calculated the Power is $CP1 / LP1 + CP2 / LP2 + \dots$ etc. < 1
CP = Calculation power
LP = Limit of power
3. The worst-case situation is 0.46, which is less than "1". This confirmed that the device comply with FCC KDB 447498 D04 Power limit.
4. More power list please refer to BL-SZ2310633-503 test report.

5.5 Conclusion

This EUT is deemed to comply with the reference level limits, therefore the basic restrictions are compliant with human exposure limits.

Statement

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--END OF REPORT--