

TEST REPORT

Applicant: SIMCom Wireless Solutions Limited

EUT Description: SIMCom LTE Smart Module

Model: SIM8918EA-2W

Brand: SIMCom

FCC ID: 2AJYU-8XRA003

Standards: CFR 47, FCC Part 2.1091
447498 D01 General RF Exposure Guidance v06

Date of Receipt: 2026/07/24

Date of Issue: 2026/09/10

TOWE tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of the model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. Without written approval of TOWE, the test report shall not be reproduced except in full.


Jim Huang
Approved By:


Carey Chen
Reviewed By:

Revision History

Rev.	Issue Date	Description	Revised by
01	2026/09/10	Original	Carey Chen

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1 General Description

1.1 Lab Information

1.1.1 Testing Location

These measurement tests were conducted at the Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. facility located at F 401 and F 101, Building E, Hongwei Industrial Zone, No. 6, Liuxian 3rd Road, Zone 70, Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, People's Republic of China. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014

Tel.: +86-755-27212361

Contact Email: info@towewireless.com

1.1.2 Test Facility / Accreditations

A2LA (Certificate Number: 7088.01)

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

FCC Designation No.: CN1353

Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory.

Test Firm Registration Number: 684095

Designation Number: CN1353.

ISED CAB identifier: CN0152

Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0152

Company Number: 31000

1.2 Client Information

1.2.1 Applicant

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

1.2.2 Manufacturer

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

1.3 Product Information

EUT Description:	SIMCom LTE Smart Module		
Model.:	SIM8918EA-2W		
Brand:	SIMCom		
Hardware Version:	8XR000-SIM8918_V1.03		
Software Version:	SIM8918B01V01_B		
Frequency Bands:	Band	TX Frequency	RX Frequency
	GSM 850	824 ~ 849 MHz	869 ~ 894 MHz
	PCS 1900	1850 ~ 1910 MHz	1930 ~ 1990 MHz
	WCDMA Band II	1850 ~ 1910 MHz	1930 ~ 1990 MHz
	WCDMA Band IV	1710 ~ 1755 MHz	2110 ~ 2155 MHz
	WCDMA Band V	824 ~ 849 MHz	869 ~ 894 MHz
	LTE Band 2	1850 ~ 1910 MHz	1930 ~ 1990 MHz
	LTE Band 4	1710 ~ 1755 MHz	2110 ~ 2155 MHz
	LTE Band 5	824 ~ 849 MHz	869 ~ 894 MHz
	LTE Band 7	2500 ~ 2570 MHz	2620 ~ 2690 MHz
	LTE Band 38	2570 ~ 2620 MHz	2570 ~ 2620 MHz
	LTE Band 41	2496 ~ 2690MHz	2496 ~ 2690MHz
	Bluetooth	2402~2480 MHz	2402~2480 MHz
	Wi-Fi 2.4G	2412~2462 MHz	2412~2462 MHz
	5G WIFI(U-NII-1)	5150 ~ 5250MHz	5150 ~ 5250MHz
	5G WIFI(U-NII-2A)	5250 ~ 5350MHz	5250 ~ 5350MHz
	5G WIFI(U-NII-2C)	5470 ~ 5725MHz	5470 ~ 5725MHz
	5G WIFI(U-NII-3)	5725 ~ 5850MHz	5725 ~ 5850MHz
Antenna Type:	☒ External, ☐ Integrated		
Power Class:	Class 3: All		
Antenna Gain:	Band	Ant0 (dBi)	
	GSM 850	2.50	
	PCS 1900	0.98	
	WCDMA Band II	0.98	
	WCDMA Band IV	2.00	
	WCDMA Band V	2.50	
	LTE Band 2	0.98	
	LTE Band 4	2.00	
	LTE Band 5	2.50	
	LTE Band 7	1.00	
	LTE Band 38	1.01	
	LTE Band 41	1.13	
	Bluetooth	4.53	
	Wi-Fi 2.4G	4.53	
	5G WIFI(U-NII-1)	2.64	

	5G WIFI(U-NII-2A)	1.76
	5G WIFI(U-NII-2C)	4.66
	5G WIFI(U-NII-3)	4.43
Remark: The above EUT's information was declared by applicant, please refer to the specifications or user's manual for more detailed description.		

2 Maximum Permissible RF Exposure

2.1 RF Exposure Limit Introduction

§1.1310 the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b).

- (1) Table 1 to § 1.1310(e)(1) sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields.

Table 1 to § 1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3~3.0	614	1.63	*(100)	≤6
3.0~30	1842/f	4.89/f	*(900/f ²)	<6
30~300	61.4	0.163	1.0	<6
300~1500			f/300	<6
1500~100000			5	<6
(ii) 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
1500~100000			1.0	<30

Note: f = frequency in MHz. * = Plane-wave equivalent power density.

- (2) Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. The phrase *fully aware* in the context of applying these exposure limits means that an exposed person has received written and/or verbal information fully explaining the potential for RF exposure resulting from his or her employment. With the exception of transient persons, this phrase also means that an exposed person has received appropriate training regarding work practices relating to controlling or mitigating his or her exposure. In situations when an untrained person is transient through a location where occupational/controlled limits apply, he or she must be made aware of the potential for exposure and be supervised by trained personnel pursuant to § 1.1307(b)(2) of this part where use of time averaging is required to ensure compliance with the general population exposure limit. The phrase exercise control means that an exposed person is allowed and also knows how to reduce or avoid exposure by administrative or engineering work practices, such as use of personal protective equipment or time averaging of exposure.
- (3) General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure. For example, RF sources intended for consumer use shall be subject to the limits for general population/uncontrolled exposure in this section.

The MPE was calculated at **20cm** to show compliance with the power density limit.

2.2 Equations

Power Density is given by:

$$S = \frac{\text{EIRP}}{4\pi R^2}$$

Where:

S = Power density in mW/cm²

EIRP= Equivalent isotropic Radiated power in mW

R = Distance from transmitting antenna in cm

Power density in units of mW/cm² is converted to units of W/m² by multiplying by 10.

Distance:

$$R = \sqrt{\frac{\text{EIRP}}{4\pi S}}$$

Where:

S = Power density in mW/cm²

EIRP= Equivalent isotropic Radiated power in mW

R = Distance from transmitting antenna in cm

EIRP:

$$\text{EIRP} = P + G$$

Where:

EIRP = Equivalent isotropic Radiated power in Mw

P = Output power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

Source-Based Duty Cycle:

Where applicable (for example, multi-slot cell phone applications) a duty cycle factor may be applied.

Source-based time-averaged EIRP = (DC / 100) * EIRP

Where:

DC = Duty Cycle in %, as applicable

EIRP= Equivalent isotropic Radiated power in mW

MIMO and colocated transmitters (identical limit for all transmitters):

For multiple chain devices, and colocated transmitters operating simultaneously in frequency bands where the limit is identical, the total power density is calculated using the total EIRP obtained by summing the PG (in linear units) of each transmitter.

Total EIRP = (EIRP 1) + (EIRP 2) + ... + (EIRP n)

MIMO and colocated transmitters:

For multiple colocated transmitters operating simultaneously in frequency bands where different limit apply:

The power density at the specified separation distance is calculated for each transmitter chain or transmitter.

The fraction of the exposure limit is calculated for each chain or transmitter as

Power density of chain or transmitter / limit applicable to the chain or transmitter.

The fractions are summed.

Compliance is established if the sum of the fractions is less than or equal to one.

3 RF Exposure Results

3.1 Standalone Exposure Calculations

For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.

The manufacturing configures output power so that the maximum power, after accounting for manufacturing tolerances, will never exceed the maximum power level measured.

The antenna gain in the tables below is the maximum antenna gain among various channels within the specified band.

Operating Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	EIRP/ERP (dBm)	EIRP/ERP Limit (dBm)	Maximum AV Power (mW)	Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Gain According to EIRP/ERP (dBi)	Gain According to Pd (dBi)	Maximum Gain Allowed (dBi)	Results
GSM 850	824.2	2.50	35	35.35	38.45	381.0658	0.2212	0.5495	5.60	8.60	5.60	Pass
PCS 1900	1850.2	0.98	32	32.98	33.00	190.9853	0.0476	1.0000	1.00	14.20	1.00	Pass
WCDMA Band II	1852.4	0.98	25	25.98	33.00	316.2278	0.0788	1.0000	8.00	12.01	1.00	Pass
WCDMA Band IV	1712.4	2.00	25	27.00	30.00	316.2278	0.0997	1.0000	5.00	12.01	4.30	Pass
WCDMA Band V	826.4	2.50	25	25.35	38.45	316.2278	0.1835	0.5509	15.60	9.42	5.60	Pass
LTE Band 2	1850.7	0.98	25.7	26.68	33.00	371.5352	0.0926	1.0000	7.30	11.31	1.00	Pass
LTE Band 4	1710.7	2	25.7	27.70	30.00	371.5352	0.1171	1.0000	4.30	11.31	4.30	Pass
LTE Band 5	824.7	2.5	25.7	26.05	38.45	371.5352	0.2156	0.5498	14.90	8.71	5.60	Pass
LTE Band 7	2502.5	1	25.7	26.70	33.00	371.5352	0.0931	1.0000	7.30	11.31	7.30	Pass
LTE Band 38	2572.5	1.01	25.7	26.71	33.00	371.5352	0.0933	1.0000	7.30	11.31	7.30	Pass
LTE Band 41	2498.5	1.13	25.7	26.83	33.00	371.5352	0.0959	1.0000	7.30	11.31	7.30	Pass
Bluetooth	2402	4.53	13	17.53	-	19.9526	0.0113	1.0000	NA			Pass
2.4GWIFI	2412	4.53	18	22.53	-	63.0957	0.0356	1.0000				Pass
Wifi 5GHz B1	5180.0	2.64	19	21.64	-	79.4328	0.0290	1.0000				Pass
Wifi 5GHz B2	5260.0	1.76	19	20.76	-	79.4328	0.0237	1.0000				Pass
Wifi 5GHz B3	5500.0	4.66	19	23.66	-	79.4328	0.0462	1.0000				Pass
Wifi 5GHz B4	5745.0	4.43	19	23.43	-	79.4328	0.0438	1.0000				Pass

Remark:

1. GSM Operating Band: Frame-average power=Burst power+ Division Factors (-9.19).
2. "Maximum Power" comes from the largest "Tune-up" provided by the customer.

3.2 Multiple Sources Exposure Calculations

When a number of sources at different frequencies, and/or broadband sources, contribute to the total exposure, it becomes necessary to weigh each contribution relative to the MPE in accordance with the provisions of Table(A) and Table(B). To comply with the MPE, the fraction of the MPE in terms of E2, H2 (or power density) incurred within each frequency interval should be determined and the sum of all such fractions should not exceed unity.

In order to ensure compliance with the MPE for a controlled environment, the sum of the ratios of the power density to the corresponding MPE should not exceed unity.

$$\sum_{i=1}^n \frac{S_i}{MPE_i} \leq 1$$

The product also has multiple transmitters The Simultaneous Transmission Possibilities are as below:

Simultaneous Tx Combination	Configuration
1	5G Wi-Fi + Bluetooth
2	WWAN + Bluetooth
3	WWAN + 2.4G Wi-Fi
4	WWAN + 5G Wi-Fi
5	WWAN + 5G Wi-Fi+ Bluetooth

TER (Total exposure ratio) = Power Density (mW/cm²) / Limit (mW/cm²)

Operating Band	Frequency (MHz)	Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)	TER
GSM 850	824.2000	0.2212	0.5495	0.4025
PCS 1900	1850.2000	0.0476	1.0000	0.0476
WCDMA Band II	1852.4000	0.0788	1.0000	0.0788
WCDMA Band IV	1712.4000	0.0997	1.0000	0.0997
WCDMA Band V	826.4000	0.1835	0.5509	0.3331
LTE Band 2	1850.7000	0.0926	1.0000	0.0926
LTE Band 4	1710.7000	0.1171	1.0000	0.1171
LTE Band 5	824.7000	0.2156	0.5498	0.3922
LTE Band 7	2502.5000	0.0931	1.0000	0.0931
LTE Band 38	2572.5000	0.0933	1.0000	0.0933
LTE Band 41	2498.5000	0.0959	1.0000	0.0959
Bluetooth	2402.0000	0.0113	1.0000	0.0113
2.4GWIFI	2412.0000	0.0356	1.0000	0.0356
Wifi 5GHz B1	5180.0000	0.0290	1.0000	0.0290
Wifi 5GHz B2	5260.0000	0.0237	1.0000	0.0237
Wifi 5GHz B3	5500.0000	0.0462	1.0000	0.0462
Wifi 5GHz B4	5745.0000	0.0438	1.0000	0.0438

The product also has multiple transmitters. The Simultaneous Transmission Possibilities are as below:

The worst-case combination:

Combination	TER	Total TER	Limit	Conclusion
LTE Band 5	0.3922	0.4497	<1	PASS
Bluetooth	0.0113			
5G Wi-Fi	0.0462			

~The End~