TEST REPORT

No. I18D00208-SAR01

For

Client : **Shanghai SIMCom Wireless Solution Ltd.**

Production : **SIMCom 4G Smart module**

Model Name : **SIM8905A**

FCC ID: **2AJYU-8PSA301**

Hardware Version: **V1.01**

Software Version: **B01**

Issued date: **2018-11-8**

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of ECIT Shanghai.

Test Laboratory:

ECIT Shanghai, East China Institute of Telecommunications

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Revision Version

Report Number	Revision	Date	Memo
I18D00208-SAR01	00	2018-11-8	Initial creation of test report

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1. Test Laboratory

1.1. Testing Location

Company Name:	ECIT Shanghai, East China Institute of Telecommunications
Address:	7-8F, G Area,No. 668, Beijing East Road, Huangpu District, Shanghai, P. R. China
Postal Code:	200001
Telephone:	(+86)-021-63843300
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1.2. Project Data

Project Leader:	Yu Anlu

1.3. Signature

Yan Hang
(Prepared this test report)

Fu Erliang
(Reviewed this test report)

Zheng Zhongbin
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	Shanghai SIMCom Wireless Solution Ltd.
Address	Bldg. B, SIM Technology Bldg.,No.633, Jinzhong Rd, Changning Dist., Shanghai, P.R.China
Telephone:	021-31575186
Postcode:	200335

2.2. Manufacturer Information

Company Name:	Shanghai SIMCom Wireless Solution Ltd.
Address /Post:	Bldg. B, SIM Technology Bldg.,No.633, Jinzhong Rd, Changning Dist., Shanghai, P.R.China
Telephone:	021-31575186
Postcode:	200335

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

EUT Description	SIMCom 4G Smart module
Model name	SIM8905A
LTE Frequency Band	2/4/5/12
Antenna Type	External Antenna
FCC ID:	2AJYU-8PSA301

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version:
N01	N/A	V1.01	B01

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
N/A	N/A	N/A	N/A	N/A

*AE ID: is used to identify the test sample in the lab internally.

4. Test Results

4.1. RF Power Output

Frequency Band	Max power(dBm)	Highest Frame-Averaged Output Power (dBm)	Antenna Gain(dBi)
LTE Band 2	25.7	25.7	1.79
LTE Band 4	25.7	25.7	2.96
LTE Band 5	25.7	25.7	0.67
LTE Band 12	25.7	25.7	-1.5

4.2. Duty cycle

Mode	Duty Cycle
LTE	1:1

5. Reference Documents for FCC

5.1. Applicable Standards

The MPE report was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 2.1091.
FCC CFR 47, Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

5.2. Test Limits

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

Limits for Occupational / Controlled Exposure

Frequency Range [MHz]	Electric Field Strength (E) [V/m]	Magnetic Field Strength (H) [A/m]	Power Density (S) [mW/cm2]	Averaging Times |E|2, |H|2 or S [miniutes]
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1824/f	4.89/f	(900/f)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	--	--	F/300	6
1500 - 100000	--	--	5	6

Limits for General Population / Uncontrolled Exposure

Frequency Range [MHz]	Electric Field Strength (E) [V/m]	Magnetic Field Strength (H) [A/m]	Power Density (S) [mW/cm2]	Averaging Times |E|2, |H|2 or S [miniutes]
0.3 – 1.34	614	1.63	(100)*	30
1.34 – 30	824/f	2.19/f	(180/f)*	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
For the DUT, the limits for General Population / Uncontrolled Exposure are applicable.

5.3. Calculation Information

For conservative evaluation consideration, only maximum power of each frequency band based on the tighter limits respectively are used to calculate the boundary power density.

Based on the FCC KDB 447498 D01 and 47 CFR §2.1091, the DUT is evaluated as a mobile device.

Given $S = \frac{P \times G}{4\Pi d^2}$ ***Equation 1***

Where
P = Power in Watts
G = Numeric antenna gain
d = Distance in meters
S = Power density in milliwatts / square centimeter

Band	Frequency (MHz)	Highest Frame-Averaged Output Power (dBm)	Antenna Gain（dBi）	Power density at 20cm	Limit mW/cm²
LTE Band 2	1850	25.7	1.79	0.112	1
LTE Band 4	1710	25.7	2.96	0.146	1
LTE Band 5	824	25.7	0.67	0.086	0.549
LTE Band 12	698	25.7	-1.5	0.052	0.465

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

5.4. Calculations

The product is under the MPE limits. All is pass.

************END OF REPORT************