



TEST REPORT

No. I16D00213-SAR

For

Client : Shanghai Simcom Ltd.

Production : LTE-FDD/HSPA MODULE

Model Name : SIM7500A

FCC ID: UDV-201606

Issued date: 2016-10-19

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 |
|---------------|----------|------------|---------------------------------|
| I16D00213-SAR | 00 | 2016-10-19 | Initial creation of test report |

CONTENTS

| | |
|---|----------|
| 1. TEST LABORATORY | 4 |
| 1.1. TESTING LOCATION | 4 |
| 1.2. PROJECT DATA | 4 |
| 1.3. SIGNATURE..... | 4 |
| 2. CLIENT INFORMATION..... | 5 |
| 2.1. APPLICANT INFORMATION..... | 5 |
| 2.2. MANUFACTURER INFORMATION..... | 5 |
| 3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) | 6 |
| 3.1. ABOUT EUT | 6 |
| 3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST | 6 |
| 3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST | 6 |
| 4. REFERENCE DOCUMENTS | 7 |
| 4.1. APPLICABLE STANDARDS..... | 7 |
| 4.2. TEST LIMITS..... | 7 |
| 5. TEST RESULTS | 8 |
| 5.1. RF POWER OUTPUT..... | 8 |
| 5.2. CALCULATION INFORMATION | 8 |
| 5.3. RESULT OF LTE BAND12..... | 8 |

1. Test Laboratory

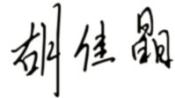
1.1. Testing Location

| | |
|-----------------------|---|
| 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 |
| Fax: | (+86)-021-63843301 |
| FCC Registration NO.: | 489729 |

1.2. Project Data

| | |
|---------------------|--------------|
| Project Leader: | Wang Yaqiong |
| Testing Start Date: | 2016-10-08 |
| Testing End Date: | 2016-10-08 |

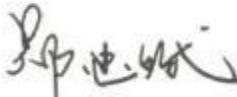
1.3. Signature



Hu Jiajing
(Prepared this test report)



Song Kaihua
(Reviewed this test report)



Zheng Zhongbin
Director of the laboratory
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name: Shanghai Simcom Ltd.
Address /Post: SIM Technology Building.,No.633, Jinzhong Rd,Changning District, Shanghai, P.R.China
Telephone: 021-32523134
Contact yongsheng.li

2.2. Manufacturer Information

Company Name: Shenyang Simcom Technology Ltd.
Address /Post: No.37, Shenbei Rd, Shenbei New Aear, Shenyang,P.R.China
Telephone: 024-88922251
Contact qin.pan@sim.com

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

3.1. About EUT

| | |
|--------------------|---------------------|
| EUT Description | LTE-FDD/HSPA MODULE |
| Model name | SIM7500A |
| LTE Frequency Band | LTE Band12 |
| Antenna Type | External Antenna |
| FCC ID: | UDV-201606 |

3.2. Internal Identification of EUT used during the test

| EUT ID* | SN or IMEI | HW Version | Date of receipt |
|---------|-----------------|------------|-----------------|
| N06 | 861475030000931 | V1.02 | 2016-09-23 |

*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 |
|--------|---------------|-------|-----|--------------|
| AE1 | RF cable | N/A | N/A | N/A |
| AE2 | Dummy Battery | N/A | N/A | N/A |

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

4. Reference Documents

4.1. Applicable Standards

The MPE report was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 2.1091.

The limits standard is based on the Council Recommendation 1999/519/EC.

FCC CFR 47, Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS, Oct 1,2011

Section 2.1091 Radiofrequency radiation exposure evaluation: mobile devices, June 23, 2015

4.2. 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/cm ²] | Averaging Times E ² , H ² or S [minutes] |
|-----------------------|-----------------------------------|-----------------------------------|---|--|
| 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/cm ²] | Averaging Times E ² , H ² or S [minutes] |
|-----------------------|-----------------------------------|-----------------------------------|---|--|
| 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. Test Results

5.1. RF Power Output

| Frequency Band | Highest Power Output(dBm) | Antenna Gain(dBi) |
|----------------|---------------------------|-------------------|
| LTE Band12 | 25.7 | 1.57 |

5.2. 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.

$$\text{Given } S = \frac{P \times G}{4\pi d^2} \quad \text{Equation 1}$$

Where

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

5.3. Result of LTE Band12

Test Results: MPE Limit Calculation: the EUT's operating frequencies @ 698 – 716 MHz; as per the original test report the highest power is 371.54mW,. The maximum gain is 1.57dBi(numeric gain 1.435).The resulted power density at a distance of 20cm can be deducted as follows:

$$\text{Power Density} = P \times G \times \text{Duty Cycle} / (4\pi R^2) = 371.54 \times 1.469 \times 1 / (4 \times \pi \times 20^2) = 0.106 \text{mW/cm}^2$$

The MPE limit for Occupational/Controlled Exposure is shown in the FCC KDB 447498 D01 and 47 CFR §2.1091, can be calculated as follows:

$$\text{MPE limit} = F/1500 = 698/1500 = 0.465 \text{mW/cm}^2$$

As we can see the resulted power density is below the MPE limit, therefore the DUT in this band is compliant with the FCC rules on RF exposure.

Note: $\pi=3.1416$

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

*****End The Report*****