RF Exposure Evaluation Declaration

Product Name : WCDMA/HSDPA Module

Model No. : SIM5320ALD

FCC ID: UDV-1403022014009

Applicant : Shanghai Simcom Ltd.
Address : Building A, SIM Technology Building No.633，
Jinzhong Road，Changning Disdrict，
Shanghai P.R. China 200335

Date of Receipt : 08/14/2014

Issued Date : 09/02/2014

Report No. : UL15820140814FCC032- 3

Report Version : V1.0

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Report No. : UL15820140814FCC032-3

Product Name :	WCDMA/HSDPA Module
Applicant :	Shanghai Simcom Ltd
Address :	Building A, SIM Technology Building No.633, Jinzhong Road Changning Disdrict，Shanghai P.R. China 200335
Manufacturer :	Shanghai Simcom Ltd.
Address :	Building A, SIM Technology Building No.633, Jinzhong Road Changning Disdrict，Shanghai P.R. China 200335
Model No. :	SIM5320ALD
EUT Voltage	Extreme Low:3.4V,Nominal:3.8V,Extreme High:4.2V
Brand Name :	SIMCom
Applicable Standard :	FCC OET Bulletin 65 Supplement C (Edition 01-01)
Test Result :	Complied
Performed Location :	Unilab (Shanghai) Co.,Ltd. FCC 2.948 register number is 714465 No.1350, Lianxi Road, Pudong New District, Shangha, China TEL:+86-21-5027-5125/FAX:+86-21-5027-5126-876

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Reviewed By : Forest Cao

(Senior Engineer: Forest Cao)

Approved By : Eva Wang

(Supervisor: Eva Wang)

1. EUT Description

Product Name:	WCDMA/HSDPA Module
Model Name:	SIM5320ALD
Hardware Version:	V1.03
Software Version:	SIM5320ALD_V1.5
RF Exposure Environment:	Uncontrolled

UMTS/HSDPA	
Support Band:	WCDMA Band Ⅱ / V
Tx Frequency Range:	WCDMA Band Ⅱ: 1850MHz ~1910MHz WCDMA Band V: 824MHz ~849MHz
Rx Frequency Range:	WCDMA Band Ⅱ: 1930MHz ~1990MHz WCDMA Band V: 869MHz ~894MHz
Type of modulation:	WCDMA(UMTS/HSDPA): QPSK
Antenna Type:	Connector
Antenna Peak Gain:	WCDMA Band Ⅱ/ V: 1.0dBi

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 Filed Strength (V/m)	Magnetic Filed Strength (A/m)	Power Density (mW/cm2)	Average Time (Minutes)
(A)Limits for Occupation/Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B)Limits for General Occupation/UnControlled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4*Pi*R2)

Where

Pd = power density in mW/cm2

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 id the limit of MPE, 1 mW/cm2 . 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 Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 22℃and 45％ RH.

2.3.Test Result of RF Exposure Evaluation

This device is evaluated by mobile device with general population/uncontrolled exposure condition
For this device, the calculation is using the most conservative values, and the results are as follows:

Test Mode	ERP (dBm)	EIRP (dBm)	Peak EIRP (mW)	Average EIRP (mW)	Calculated RF Exposure at d = 20cm (mW/cm2)	MPE Limit (mW/cm2)
UMTS850	21.18	23.33	215.27	34.12	0.09	0.55
UMTS1900	/	21.57	143.55	22.75	0.07	1.00

Test Mode	Antenna Gain (dBi)	Maximum Output Power (dBm)	Maximum Output Power (mW)	Average EIRP (mW)	Calculated RF Exposure at d = 20cm (mW/cm2)	MPE Limit (mW/cm2)
UMTS850	1.0	25	316.23	50.12	0.10	0.55
UMTS1900	1.0	25	316.23	50.12	0.10	1.00

This device can pass RF exposure limit.