

Radio Test Report

Report No.: STS2408022H01

Issued for

SIMCom Wireless Solutions Limited

Building 3, No.289 Linhong Road, Shanghai, China

Product Name: LTE/GNSS MODULE

Brand Name: SIMCom

Model Name: SIM7600G

Series Model(s): SIM7600G miniPCIE

FCC ID: 2AJYU-8PYA00E

Test Standard: FCC 47CFR §2.1091

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the ShenZhen STS Test Services Co., Ltd.

**TEST REPORT**

Applicant's Name : SIMCom Wireless Solutions Limited
Address : Building 3, No.289 Linhong Road, Shanghai, China
Manufacturer's Name : SIMCom Wireless Solutions Limited
Address : Building 3, No.289 Linhong Road, Shanghai, China

Product Description

Product Name : LTE/GNSS MODULE
Brand Name : SIMCom
Model Name : SIM7600G
Series Model(s) : SIM7600G miniPCIE

Test Standards : FCC 47CFR §2.1091
447498 D01 Interim General RF Exposure Guidance v06

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Date of Test

Date of receipt of test item : 02 Aug. 2024
Date (s) of performance of tests : 02 Aug. 2024~ 26 Aug. 2024
Date of Issue : 26 Aug. 2024
Test Result : **Pass**

Testing Engineer :

(Lenon Hou)

Technical Manager :

(Chris Chen)

Authorized Signatory :

(Bovey Yang)





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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	26 Aug. 2024	STS2408022H01	ALL	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	LTE/GNSS MODULE	
Brand Name	SIMCom	
Model Name	SIM7600G	
Series Model(s)	SIM7600G miniPCIE	
Model Difference	Only different in model name and appearance.	
Product Description	The EUT is LTE/GNSS MODULE	
	Operation Frequency:	Tx Frequency: GSM850: 824-849 MHz GSM1900: 1850-1910 MHz WCDMA B2: 1850-1910 MHz WCDMA B5: 824-849 MHz WCDMA B4: 1710-1755 MHz LTE Band 2:1850~1910MHz LTE Band 4:1710~1755MHz LTE Band 5:824~849MHz LTE Band 12:699~716MHz LTE Band 13:777~787MHz LTE Band 25:1850~1915MHz LTE Band 26:814~849MHz LTE Band 41:2496~2690MHz LTE Band 66:1710~1780MHz Rx Frequency: GSM850: 869-894 MHz GSM1900: 1930-1990 MHz WCDMA B2: 1930-1990 MHz WCDMA B5: 869-894 MHz WCDMA B4: 2110-2155 MHz LTE Band 2:1930 ~1990MHz LTE Band 4:2110~2155MHz LTE Band 5:869~894MHz LTE Band 12:729~746MHz LTE Band 13:746~756MHz LTE Band 25:1930~1995MHz LTE Band 26:859~894MHz LTE Band 41:2496~2690MHz LTE Band 66:2110~2200MHz
	Modulation Type:	GMSK for GPRS; GMSK and 8PSK for EDGE WCDMA: QPSK; HSDPA:QPSK/16QAM; HSUPA:BPSK LTE:QPSK /16QAM
	Antenna gain:	GSM 850:8 dBi ,PCS 1900:8 dBi WCDMA B2:8 dBi,WCDMA B4:5 dBi WCDMA B5:8 dBi LTE: Band2:8dBi, Band4:5dBi, Band5:8dBi, Band12:7dBi, Band13:8dBi, Band25:8dBi, Band26:8dBi, Band41:8dBi, Band66:5dBi
	Antenna Designation:	Dipole Antenna



Power Rating:	Input: 3.8V
Hardware Version	V2.02
Software Version	SIM7600G_V2.0.2

1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
3.0-30	1842/f	4.89/f	*(900/f ²)
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1.34-30	824/f	2.19/f	*(180f ²)
1500 – 100000	--	--	1.0

F= Frequency in MHz

Friss Formula

Friss Transmission Formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.



2.3 TEST RESULT

Turn up

Mode	Detector	Turn up Power
GPRS 850	AV	27±1dBm
GPRS 1900	AV	24±1dBm
WCDMA Band 2	AV	24±1dBm
WCDMA Band 4	AV	23±1dBm
WCDMA Band 5	AV	23±1dBm
LTE Band 2	AV	23±1dBm
LTE Band 4	AV	24±1dBm
LTE Band 5	AV	25±1dBm
LTE Band 12	AV	23±1dBm
LTE Band 13	AV	23±1dBm
LTE Band 25	AV	23±1dBm
LTE Band 26	AV	23±1dBm
LTE Band 41	AV	23±1dBm
LTE Band 66	AV	23±1dBm



Protocol	Fre. (MHz)	Separati on distance (cm)	Max Turn up power (dBm)	ANT Gain (dBi)	Max ERP (dBm)	Max ERP (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
GPRS 850	824	20	28.00	8	33.85	2426.610	0.483	0.549	0.879	Pass
WCDMA Band 5	824	20	24.00	8	29.85	966.051	0.192	0.549	0.350	Pass
LTE Band 5	849	20	26.00	8	31.85	1531.087	0.305	0.549	0.554	Pass
LTE Band 12	707.5	20	24.00	7	29.85	966.051	0.192	0.466	0.412	Pass
LTE Band 13	782	20	24.00	8	29.85	966.051	0.192	0.518	0.371	Pass
LTE Band 26	831.5	20	24.00	8	29.85	966.051	0.192	0.543	0.354	Pass

Protocol	Fre. (MHz)	Separati on distance (cm)	Max Turn up power (dBm)	ANT Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
GPRS 1900	1850	20	25.00	8	33.00	1995.262	0.397	1.000	0.397	Pass
WCDMA Band 2	1850	20	25.00	8	33.00	1995.262	0.397	1.000	0.397	Pass
WCDMA Band 4	1710	20	24.00	5	29.00	794.328	0.158	1.000	0.158	Pass
LTE Band 2	1910	20	24.00	8	32.00	1584.893	0.315	1.000	0.315	Pass
LTE Band 4	1732.5	20	25.00	5	30.00	1000.000	0.199	1.000	0.199	Pass
LTE Band 25	1850	20	24.00	8	32.00	1584.893	0.315	1.000	0.315	Pass
LTE Band 41	2690	20	24.00	8	32.00	1584.893	0.315	1.000	0.315	Pass
LTE Band 66	1755	20	24.00	5	29.00	794.328	0.158	1.000	0.158	Pass

Note: 1. The Maximum power is less than the limit, complies with the exemption requirements.

2. ERP = EIRP - 2.15

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