

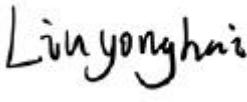
Test Report No.:
FCC2022-0037-H

Test Report

EUT : **Wireless Module**
MODEL : **N/A**
BRAND NAME : **A7670G**
APPLICANT : **SIMCom Wireless Solutions Limited**
Classification Of Test : **N/A**

CVC Testing Technology Co., Ltd.



Client	Name: SIMCom Wireless Solutions Limited Address: Building 3, No.289 LinHong Road, Changning District, Shanghai, P.R.China		
Manufacturer	Name: SIMCom Wireless Solutions Limited Address: Building 3, No.289 LinHong Road, Changning District, Shanghai, P.R.China		
Equipment Under Test	Name: Wireless Module Model/Type: A7670G Trade mark: N/A Serial NO.: N/A Sampe NO.:3-1		
Date of Receipt.	2022.7.25	Date of Testing	2022.07.25~2022.08.24
Test Specification		Test Result	
FCC Part 2 (Section 2.1091) KDB 447498 D04 IEEE C95.1		PASS	
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. Issue Date: 2022.10.09		
Tested by:  Xu ZhenFei Name Signature	Reviewed by:  Liu YongHai Name Signature	Approved by:  Chen HuaWen Name Signature	
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.



TABLE OF CONTENTS

RELEASE CONTROL RECORD	4
1 GENERAL PRODUCT INFORMATION	5
2 RF EXPOSURE LIMITGENERAL INFORMATION	6
2.1 CLASSIFICATION	6
2.2 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)	6
2.3 THE MAXIMUM AVERAGE POWER	8
2.4 RF EXPOSURE EVALUATION	9



RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCC2022-0037-H	Original release	2022.10.09



1 GENERAL PRODUCT INFORMATION

PRODUCT	Wireless Module			
BRAND	N/A			
MODEL	A7670G			
FCC ID	2AJYU-8BAE003			
POWER SUPPLY	DC 3.8V From host unit			
LTE CATEGORY	CAT 1			
MODULATION TYPE	LTE	QPSK, 16QAM		
OPERATING FREQUENCY And MAXIMUM OUTPUT POWER	Band	TX(MHz)	RX(MHz)	Maximum Output Power to Antenna
	LTE B2	1850 ~ 1910	1930 ~ 1990	23.54 dBm
	LTE B4	1710 ~ 1755	2110 ~ 2155	24.37 dBm
	LTE B5	824 ~ 849	869 ~ 894	23.50 dBm
	LTE B7	2500 ~ 2570	2620 ~ 2690	21.36 dBm
	LTE B12	699 ~ 716	729 ~ 746	24.03 dBm
	LTE B13	777 ~ 787	746 ~ 756	23.09 dBm
	LTE B25	1850 ~ 1915	1930 ~ 1995	23.67 dBm
	LTE B26 (814~ 824)	814~ 824	859 ~ 869	23.41 dBm
	LTE B26 (824~ 849)	824~ 849	869 ~ 894	23.53 dBm
	LTE B38	2570 ~ 2620	2570 ~ 2620	23.27 dBm
	LTE B40 Block A	2305 ~ 2315	2305 ~ 2315	23.55 dBm
	LTE B40 Block B	2350 ~ 2360	2350 ~ 2360	23.20 dBm
	LTE B41	2496 ~ 2690	2496 ~ 2690	23.08 dBm
	LTE B66	1710 ~ 1780	2110 ~ 2180	24.38 dBm
	GSM 850	824 ~ 849	869 ~ 894	32.42 dBm
	GSM 1900	1850 ~ 1910	1930 ~ 1990	28.58 dBm
I/O PORTS	Refer to user's manual			
CABLE SUPPLIED	N/A			

Remark:

1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: FCC2022-0037-E) for detailed product photo.
4. The EUT has SISO function, provides 1 completed transmitter and 1 receiver.
5. LTE CAT 1 16QAM (10MHz/15MHz/20MHz) not support full RB

2 RF EXPOSURE LIMIT GENERAL INFORMATION

2.1 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.2 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

(Option B) According to Part 1.1307b, or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz;

and

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$



(Option C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda / 2 \pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda / 4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

RF SOURCE FREQUENCY (MHZ)	THRESHOLD ERP(W)
0.3 -1.34	$1,920 R^2$
1.34 - 30	$3,450 R^2 F^2$
30 -300	$3.83 R^2$
300-1500	$0.0128 R^2 F$
1500-100,000	$19.2 R^2$

2.3 The Maximum Average Power

Mode	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
LTE B2	23	± 1	22	24
LTE B4	24	± 1	23	25
LTE B5	23	± 1	22	24
LTE B7	21	± 1	20	22
LTE B12	24	± 1	23	25
LTE B13	23	± 1	22	24
LTE B25	23	± 1	22	24
LTE B26	23	± 1	22	24
LTE B38	23	± 1	22	24
LTE B40	22.98	± 1	21.98	23.98
LTE B41	23	± 1	22	24
LTE B66	24	± 1	23	25
GSM 850	32	± 1	31	33
GSM 1900	28	± 1	27	29



2.4 RF Exposure Evaluation

Frequency BAND	Maximum conducted power (dBm)	Maximum EIRP Limit (mW)	Part1.1307b Threshold (mW)	Maximum ERP/EIRP Limit (dBm)	Part1.1307b Threshold (dBm)	Maximum Antenna Gain for ERP/EIRP (dBi)	Maximum Antenna Gain for Part1.1307b (dBi)
LTE B2	24.00	2000	3060.00	33.01	34.85	9.01	10.85
LTE B4	25.00	1000	3060.00	30.00	34.85	5.00	9.85
LTE B5	24.00	7000	1680.96	38.45	32.25	12.30	10.40
LTE B7	22.00	2000	3060.00	33.01	34.85	11.01	12.85
LTE B12	25.00	3000	1425.96	34.77	31.54	7.62	8.69
LTE B13	24.00	3000	1585.08	34.77	32.00	8.62	10.15
LTE B25	24.00	2000	3060.00	33.01	34.85	9.01	10.85
LTE B26	24.00	7000	1660.56	38.45	32.20	12.30	10.35
LTE B38	24.00	2000	3060.00	33.01	34.85	9.01	10.85
LTE B40	23.98	250	3060.00	23.97	34.85	-0.01	10.87
LTE B41	24.00	2000	3060.00	33.01	34.85	9.01	10.85
LTE B66	25.00	1000	3060.00	30.00	34.85	5.00	9.85
GSM 850	33.00	7000	1680.96	38.45	32.25	3.30	1.40
GSM 1900	29.00	2000	3060.00	33.01	34.85	4.01	5.85

NOTE:

1. The Maximum EIRP (dBm) = Maximum Conducted Power (dBm) + Antenna Gain (dBi)
2. The Maximum ERP (dBm) = Maximum Conducted Power (dBm) + Antenna Gain (dBi) - 2.15



Conclusion:

Based on FCC 47 CFR §1.1307, the analysis concludes that this product when transmitting in standalone within a host device, is compliant with the FCC RF exposure requirements in mobile exposure condition, provided the conducted power and antenna gain do not exceed the limits for each given frequency band per wireless technology as follow table:

Technology	Band	Maximum conducted power (dBm)	Maximum Antenna Gain (dBi)	Pth(dBm)	Pth(mW)	Part1.1307b Threshold (mw)	Verify
LTE	LTE B2	24.00	9.01	33.01	1999.86	3060.00	PASS
	LTE B4	25.00	5.00	30.00	1000.00	3060.00	PASS
	LTE B5	24.00	10.40	32.25	1678.80	1680.96	PASS
	LTE B7	22.00	11.01	33.01	1999.86	3060.00	PASS
	LTE B12	25.00	7.62	30.47	1114.29	1425.96	PASS
	LTE B13	24.00	8.62	30.47	1114.29	1585.08	PASS
	LTE B25	24.00	9.01	33.01	1999.86	3060.00	PASS
	LTE B26	24.00	10.35	32.20	1659.59	1660.56	PASS
	LTE B38	24.00	9.01	33.01	1999.86	3060.00	PASS
	LTE B40	23.98	-0.01	23.97	249.46	3060.00	PASS
	LTE B41	24.00	9.01	33.01	1999.86	3060.00	PASS
	LTE B66	25.00	5.00	30.00	1000.00	3060.00	PASS
GSM	GSM 850	33.00	1.40	32.25	1678.80	1680.96	PASS
	GSM 1900	29.00	4.01	33.01	1999.86	3060.00	PASS



Important

- (1) The test report is valid with the official seal of the laboratory and the signatures of Test engineer, Author and Reviewer simultaneously.
- (2) The test report is invalid if altered.
- (3) Any photocopies or part photocopies in the test report are forbidden without the written permission from the laboratory.
- (4) Objections to the test report must be submitted to the laboratory within 15 days.
- (5) Generally, commission test is responsible for the tested samples only.
- (6) Any photocopies or part photocopies of the test report are forbidden without the written permission from CVC;

Address of the laboratory:

CVC Testing Technology Co., Ltd.

Address: No.3, Tiantaiyi Road, Kaitai Avenue, Science City, Guangzhou, China

Post Code: 510663

Tel: 020-32293888

FAX: 020-32293889

E-mail: office@cvc.org.cn