

RF EXPOSURE REPORT



Report No.: 15070860-FCC-H2

Supersede Report No.: N/A

Applicant	Verykool USA Inc	
Product Name	Mobile Phone	
Model No.	s5020	
Serial No.	N/A	
Test Standard	FCC 2.1093:2014	
Test Date	September 24 to October 10, 2015	
Issue Date	October 15, 2015	
Test Result	☒ Pass ☐ Fail	
Equipment complied with the specification ☒		
Equipment did not comply with the specification ☐		
<i>Winnie Zhang</i>	<i>David Huang</i>	
Winnie Zhang Test Engineer	David Huang Checked By	
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only		

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108

Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn

Laboratories Introduction

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In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
15070860-FCC-H2	NONE	Original	October 15, 2015

2. Customer information

Applicant Name	Verykool USA Inc
Applicant Add	3636 Nobel Drive, Suite 325, San Diego, CA 92122 USA
Manufacturer	HUIZHOU QIAOXING ELECTRONICS TECHNOLOGY CO.,LTD
Manufacturer Add	Room -611, TianAn High-Tech Plaza II , Futian District, Shenzhen, China, 518040

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT: Mobile Phone

Main Model: s5020

Serial Model: N/A

Date EUT received: September 23, 2015

Test Date(s): September 24 to October 10, 2015

Antenna Gain:	GSM850: 2.7dBi
	PCS1900: 2.5dBi
	UMTS-FDD Band V: 2.7 dBi
	UMTS-FDD Band IV: 2.5 dBi
	UMTS-FDD Band II: 1.97 dBi
	Bluetooth/BLE/WIFI: 2.9dBi
	GPS: 1.86dBi

Type of Modulation:	GSM / GPRS: GMSK
	EGPRS: GMSK
	UMTS-FDD: QPSK, 16QAM
	802.11b/g/n: DSSS, OFDM
	Bluetooth: GFSK, $\pi/4$ DQPSK, 8DPSK
	BLE: GFSK
	GPS: BPSK

RF Operating Frequency (ies):

- GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz
- PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz
- UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz
- UMTS-FDD Band IV TX: 1712.4 ~ 1752.6 MHz;
RX : 2112.4 ~ 2152.6 MHz
- UMTS-FDD Band II TX: 1852.4 ~ 1907.6 MHz;
RX: 1932.4 ~ 1987.6 MHz
- WIFI: 802.11b/g/n(20M): 2412-2462 MHz
- WIFI: 802.11n(40M): 2422-2452 MHz
- Bluetooth & BLE: 2402-2480 MHz

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GPS RX:1575.42 MHz

Number of Channels:	GSM 850: 124CH PCS1900: 299CH UMTS-FDD Band V : 102CH UMTS-FDD Band IV: 202CH UMTS-FDD Band II : 277CH WIFI :802.11b/g/n(20M): 11CH WIFI :802.11n(40M): 7CH Bluetooth: 79CH BLE: 40CH GPS:1CH
Port:	Power Port, Earphone Port, USB Port
Input Power:	Adapter: Model:Q500 Input: AC 100-240V; 50/60Hz;0.2A Output: DC5.0V;1000mA Battery: Model:Q506 Spec:DC3.8V,3000mAh,11.4Wh Limited charger voltage:4.35V
Trade Name :	verykool
GPRS/EGPRS Multi-slot class	8/10/12
FCC ID:	WA6S5020
Date EUT received:	September 23, 2015

5. FCC §2.1093 - Radiofrequency radiation exposure evaluation: portable devices.

5.1 RF Exposure

Standard Requirement:

According to §15.247 (i) and §1.1307(b)(1), 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 of the Commission's guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,¹⁶ where

- $f_{\text{(GHz)}}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation¹⁷
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

$$\text{result} = P\sqrt{F} / D$$

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm

5.2 Test Result

Bluetooth Mode:

Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	2.987	2±1	3	1.995	0.62	3
	Mid	2441	2.925	2±1	3	1.995	0.62	3
	High	2480	2.142	2±1	3	1.995	0.63	3
π /4 DQPSK	Low	2402	2.370	2±1	3	1.995	0.62	3
	Mid	2441	2.704	2±1	3	1.995	0.62	3
	High	2480	1.983	2±1	3	1.995	0.63	3
8-DPSK	Low	2402	2.537	2±1	3	1.995	0.62	3
	Mid	2441	2.809	2±1	3	1.995	0.62	3
	High	2480	1.856	2±1	3	1.995	0.63	3

WIFI Mode:

Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
802.11b	Low	2412	8.39	8.5±1	9.5	8.913	2.77	3
	Mid	2437	8.74	8.5±1	9.5	8.913	2.78	3
	High	2462	8.61	8.5±1	9.5	8.913	2.80	3
802.11g	Low	2412	7.52	8.5±1	9.5	8.913	2.77	3
	Mid	2437	8.72	8.5±1	9.5	8.913	2.78	3
	High	2462	9.06	8.5±1	9.5	8.913	2.80	3
802.11n (20M)	Low	2412	8.97	8.5±1	9.5	8.913	2.77	3
	Mid	2437	8.58	8.5±1	9.5	8.913	2.78	3
	High	2462	8.57	8.5±1	9.5	8.913	2.80	3
802.11n (40M)	Low	2422	7.81	8.5±1	9.5	8.913	2.77	3
	Mid	2437	9.17	8.5±1	9.5	8.913	2.78	3
	High	2452	8.62	8.5±1	9.5	8.913	2.79	3

BLE Mode:

Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	-4.93	-4±1	-3	0.501	0.16	3
	Mid	2440	-4.19	-4±1	-3	0.501	0.16	3
	High	2480	-4.34	-4±1	-3	0.501	0.16	3

Result: Compliance

No SAR measurement is required.