


# 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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Equipment complied with the specification	<input checked="" type="checkbox"/>	
Equipment did not comply with the specification	<input type="checkbox"/>	
<i>Winnie Zhang</i>	<i>David Huang</i>	
Winnie Zhang Test Engineer	David Huang Checked By	
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Issued by:

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## Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



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:	<p>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</p>
Type of Modulation:	<p>GSM / GPRS: GMSK  EGPRS: GMSK  UMTS-FDD: QPSK, 16QAM  802.11b/g/n: DSSS, OFDM  Bluetooth: GFSK, <math>\pi</math> /4DQPSK, 8DPSK  BLE: GFSK  GPS:BPSK</p>
RF Operating Frequency (ies):	<p>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&amp; BLE: 2402-2480 MHz</p>

GPS RX:1575.42 MHz

Number of Channels:	<p>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</p>
Port:	Power Port, Earphone Port, USB Port
Input Power:	<p>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</p>
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*  $\leq 50$  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  $\leq 7.5$  for 10-g extremity SAR,<sup>16</sup> where

- $f_{\text{(GHz)}}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is  $\leq 50$  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	<b>2.987</b>	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	<b>8.74</b>	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	<b>9.06</b>	8.5±1	9.5	8.913	2.80	3
802.11n (20M)	Low	2412	<b>8.97</b>	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	<b>9.17</b>	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	<b>-4.19</b>	-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.