

# RF EXPOSURE REPORT



Report No.: 15070897-FCC-H2

Supersede Report No.: N/A

|                                                                                                                                      |                                                                        |  |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--|
| Applicant                                                                                                                            | Verykool USA Inc                                                       |  |
| Product Name                                                                                                                         | Mobile phone                                                           |  |
| Model No.                                                                                                                            | SL5550                                                                 |  |
| Serial No.                                                                                                                           | N/A                                                                    |  |
| Test Standard                                                                                                                        | FCC 2.1093:2014                                                        |  |
| Test Date                                                                                                                            | September 26 to October 15, 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<br>Test Engineer                                                                                                        | David Huang<br>Checked By                                              |  |
| This test report may be reproduced in full only<br>Test result presented in this test report is applicable to the tested sample only |                                                                        |  |

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       |
|-----------------|----------------|-------------|------------------|
| 15070897-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     | Zechin Communications Co.,Ltd.                                                               |
| Manufacturer Add | Unit804,8th Floor Desay Tech Building Gaoxin, Road South,<br>Nanshan District Shenzhen,China |

## 3. Test site information

|                      |                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Lab performing tests | SIEMIC (Shenzhen-China) LABORATORIES                                                                                                         |
| Lab Address          | Zone A, Floor 1, Building 2 Wan Ye Long Technology Park<br>South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong<br>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: SL5550

Serial Model: N/A

Date EUT received: September 25, 2015

Test Date(s): September 26 to October 15, 2015

Antenna Gain:

GSM850: 1.6 dBi  
PCS1900: 3.8 dBi  
UMTS-FDD Band V: 1.7 dBi  
UMTS-FDD Band IV: 3.7 dBi  
UMTS-FDD Band II: 3.8 dBi  
Bluetooth/BLE: 3 dBi  
WIFI: 2.9 dBi  
LTE Band 2: 3.8 dBi  
LTE Band 4: 3.8 dBi  
LTE Band 5: 3.8 dBi  
LTE Band 7: 3.8 dBi  
LTE Band 12: 3.8 dBi  
LTE Band 17: 3.8 dBi  
GPS: 1.6 dBi

Type of Modulation:

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

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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;  
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  
LTE Band 2 TX: 1852.5 ~ 1907.5 MHz; RX : 1932.5 ~ 1987.5 MHz  
LTE Band 4 TX: 1712.5 ~ 1752.5 MHz; RX : 2112.5 ~ 2152.5 MHz  
LTE Band 5 TX: 826.5 ~ 846.5 MHz; RX : 871.5 ~ 891.5 MHz  
LTE Band 7 TX: 2502.5 ~ 2567.5 MHz; RX : 2622.5 ~ 2687.5 MHz  
LTE Band 12 TX:699.7 ~ 715.3 MHz; RX : 729.7~ 745.3MHz  
LTE Band 17 TX: 706.5 ~ 713.5 MHz; RX : 736.5 ~ 743.5 MHz  
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:

Battery:  
Model:355093PV  
Spec:3.8V,2500mAh,9.5Wh  
Limited Charging Voltage: 4.35V  
Adapter:  
Model:SC050100-US  
Input: 100-240V; 50/60Hz; 0.4A  
Output: DC 5.0V,1A

Trade Name :

verykool

GPRS/EGPRS Multi-slot class

8/10/12

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FCC ID: WA6SL5550

Date EUT received: September 25, 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       | 1.887                 | 2±1                 | 3                       | 1.995                  | 0.62   | 3     |
|            | Mid  | 2441       | <b>3.431</b>          | 3±1                 | 4                       | 2.512                  | 0.78   | 3     |
|            | High | 2480       | 3.425                 | 3±1                 | 4                       | 2.512                  | 0.79   | 3     |
| π /4 DQPSK | Low  | 2402       | 1.194                 | 2±1                 | 3                       | 1.995                  | 0.62   | 3     |
|            | Mid  | 2441       | 2.769                 | 2±1                 | 3                       | 1.995                  | 0.62   | 3     |
|            | High | 2480       | 2.693                 | 2±1                 | 3                       | 1.995                  | 0.63   | 3     |
| 8-DPSK     | Low  | 2402       | 1.269                 | 2±1                 | 3                       | 1.995                  | 0.62   | 3     |
|            | Mid  | 2441       | 2.886                 | 2±1                 | 3                       | 1.995                  | 0.62   | 3     |
|            | High | 2480       | 2.803                 | 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       | <b>8.99</b>           | 8.5±1               | 9.5                     | 8.913                  | 2.77   | 3     |
|               | Mid  | 2437       | 8.69                  | 8.5±1               | 9.5                     | 8.913                  | 2.78   | 3     |
|               | High | 2462       | 8.83                  | 8.5±1               | 9.5                     | 8.913                  | 2.80   | 3     |
| 802.11g       | Low  | 2412       | <b>9.25</b>           | 8.5±1               | 9.5                     | 8.913                  | 2.77   | 3     |
|               | Mid  | 2437       | 9.13                  | 8.5±1               | 9.5                     | 8.913                  | 2.78   | 3     |
|               | High | 2462       | 9.10                  | 8.5±1               | 9.5                     | 8.913                  | 1.98   | 3     |
| 802.11n (20M) | Low  | 2412       | 9.03                  | 8.5±1               | 9.5                     | 8.913                  | 2.77   | 3     |
|               | Mid  | 2437       | 9.02                  | 8.5±1               | 9.5                     | 8.913                  | 2.78   | 3     |
|               | High | 2462       | <b>9.05</b>           | 8.5±1               | 9.5                     | 8.913                  | 2.80   | 3     |
| 802.11n (40M) | Low  | 2422       | 8.84                  | 8.5±1               | 9.5                     | 8.913                  | 2.47   | 3     |
|               | Mid  | 2437       | <b>9.30</b>           | 8.5±1               | 9.5                     | 8.913                  | 2.78   | 3     |
|               | High | 2452       | 9.06                  | 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       | -5.320                | -5±1                | -4                      | 0.398                  | 0.12   | 3     |
|            | Mid  | 2440       | <b>-3.259</b>         | -4±1                | -3                      | 0.501                  | 0.16   | 3     |
|            | High | 2480       | -4.138                | -4±1                | -3                      | 0.501                  | 0.16   | 3     |

**Result:** Compliance

No SAR measurement is required.