# RF EXPOSURE REPORT


Report No.: 16070480-FCC-H2

Supersede Report No.: N/A

| | |
|---|---|
| Applicant | MOBIWIRE MOBILES (NINGBO) CO.,LTD |
| Product Name | Mobile phone |
| Model No. | own SMART VALUE |
| Serial No. | N/A |
| Test Standard | FCC 2.1093:2015 |
| Test Date | April 28 to May 10, 2016 |
| Issue Date | May 20, 2016 |
| Test Result | ☑ Pass ☐ Fail |
| Equipment complied with the specification | ☑ |
| Equipment did not comply with the specification | ☐ |

| | | |
|---|---|---|
| Winnie Zhang | David Huang | |
| Winnie Zhang<br>Test Engineer | David Huang<br>Checked By | |

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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 |
|---|---|---|---|
| 16070480-FCC-H2 | NONE | Original | May 11, 2016 |
| 16070480-FCC-H2 | V1 | Update trademark | May 20, 2016 |
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# 2. Customer information

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|---|---|
| Applicant Name | MOBIWIRE MOBILES (NINGBO) CO.,LTD |
| Applicant Add | No.999,Dacheng East Road,Fenghua City,Zhejiang |
| Manufacturer | MOBIWIRE MOBILES (NINGBO) CO.,LTD |
| Manufacturer Add | No.999,Dacheng East Road,Fenghua City,Zhejiang |

# 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 China<br>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: | öwn SMART VALUE |
| Serial Model: | N/A |
| Date EUT received: | April 27, 2016 |
| Test Date(s): | April 28 to May 10, 2016 |
| Antenna Gain: | GSM850: -3dBi<br>PCS1900: -1dBi<br>UMTS-FDD Band V: -3dBi<br>UMTS-FDD Band II: -1dBi<br>Bluetooth/BLE/WIFI: -2dBi<br>LTE Band IV: -3dBi<br>LTE Band VII: -2dBi<br>GPS:-2dBi |
| Type of Modulation: | GSM / GPRS: GMSK<br>EGPRS: GMSK,8PSK<br>UMTS-FDD: QPSK, 16QAM<br>802.11b/g/n: DSSS, OFDM<br>Bluetooth: GFSK, π /4DQPSK, 8DPSK<br>BLE: GFSK<br>LTE Band: QPSK, 16QAM<br>GPS:BPSK |

| | |
| --- | --- |
| | GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz<br>PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz<br>UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz<br>UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz;<br>RX: 1932.4 ~ 1987.6 MHz |
| RF Operating Frequency (ies): | WIFI:802.11b/g/n(20M): 2412-2462 MHz<br>WIFI:802.11n(40M): 2422-2452 MHz<br>Bluetooth& BLE: 2402-2480 MHz<br>LTE Band IV TX: 1712.5 ~ 1752.5 MHz; RX : 2112.5 ~ 2152.5 MHz<br>LTE Band VII TX: 2502.5 ~ 2567.5 MHz; RX : 2622.5 ~ 2687.5 MHz<br>GPS RX:1575.42 MHz |
| Number of Channels: | GSM 850: 124CH<br>PCS1900: 299CH<br>UMTS-FDD Band V : 102CH<br>UMTS-FDD Band II : 277CH<br>WIFI :802.11b/g/n(20M): 11CH<br>WIFI :802.11n(40M): 7CH<br>Bluetooth: 79CH<br>BLE: 40CH<br>GPS:1CH |
| Port: | Power Port, Earphone Port, USB Port |
| Input Power: | Adapter:<br>Model: OWN SMART VALUE<br>Input: AC 100-240V; 50/60Hz;0.2A<br>Output: DC 5.0V,1A<br>Battery:<br>Model: OWN SMART VALUE<br>Spec:3.8V,2100mAh,7.98Wh<br>Limited charger voltage :4.35V |
| Trade Name : | öwn |
| GPRS/EGPRS Multi-slot class | 8/10/12 |
| FCC ID: | 2ADA4VALUE |

# 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:

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

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[17]
- 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.

**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 | 3.005 | 3.5±1 | 4.5 | 2.818 | 0.87 | 3 |
| | Mid | 2441 | **3.988** | 3.5±1 | 4.5 | 2.818 | 0.88 | 3 |
| | High | 2480 | 3.658 | 3.5±1 | 4.5 | 2.818 | 0.89 | 3 |
| π /4 DQPSK | Low | 2402 | 2.189 | 2.7±1 | 3.7 | 2.344 | 0.73 | 3 |
| | Mid | 2441 | 3.330 | 2.7±1 | 3.7 | 2.344 | 0.73 | 3 |
| | High | 2480 | 2.691 | 2.7±1 | 3.7 | 2.344 | 0.74 | 3 |
| 8-DPSK | Low | 2402 | 2.365 | 2.7±1 | 3.7 | 2.344 | 0.73 | 3 |
| | Mid | 2441 | 3.447 | 2.7±1 | 3.7 | 2.344 | 0.73 | 3 |
| | High | 2480 | 2.955 | 2.7±1 | 3.7 | 2.344 | 0.74 | 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 | 8.23 | 8.5±1 | 9.5 | 8.913 | 2.77 | 3 |
| | Mid | 2437 | 9.08 | 8.5±1 | 9.5 | 8.913 | 2.78 | 3 |
| | High | 2462 | **9.41** | 8.5±1 | 9.5 | 8.913 | 2.80 | 3 |
| 802.11g | Low | 2412 | 9.18 | 8.5±1 | 9.5 | 8.913 | 2.77 | 3 |
| | Mid | 2437 | **9.64** | 8.7±1 | 9.7 | 9.333 | 2.91 | 3 |
| | High | 2462 | 9.29 | 8.5±1 | 9.5 | 8.913 | 2.80 | 3 |
| 802.11n (20M) | Low | 2412 | **8.90** | 8.5±1 | 9.5 | 8.913 | 2.77 | 3 |
| | Mid | 2437 | 8.87 | 8.5±1 | 9.5 | 8.913 | 2.78 | 3 |
| | High | 2462 | 8.72 | 8.5±1 | 9.5 | 8.913 | 2.80 | 3 |
| 802.11n (40M) | Low | 2422 | 7.65 | 7.5±1 | 8.5 | 7.079 | 2.20 | 3 |
| | Mid | 2437 | **9.21** | 8.5±1 | 9.5 | 8.913 | 2.78 | 3 |
| | High | 2452 | 7.43 | 7.5±1 | 8.5 | 7.079 | 2.22 | 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 | -4.302 | -4±1 | -3 | 0.501 | 0.16 | 3 |
| | Mid | 2440 | **-2.381** | -2±1 | -1 | 0.794 | 0.25 | 3 |
| | High | 2480 | -3.989 | -3±1 | -2 | 0.631 | 0.20 | 3 |

**Result:** Compliance

No SAR measurement is required.