

RF EXPOSURE REPORT



Report No.: 15070727-FCC-H2

Supersede Report No.: N/A

| | | |
|--|--|--|
| Applicant | Worldlinks Communications, L.L.C. | |
| Product Name | RedDot Phone | |
| Model No. | R50 | |
| Serial No. | N/A | |
| Test Standard | FCC 2.1093.2014 | |
| Test Date | August 24 to September 24, 2015 | |
| Issue Date | September 28, 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 | |
| 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

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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 |
|-----------------|----------------|-------------|--------------------|
| 15070727-FCC-H2 | NONE | Original | September 28, 2015 |
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2. Customer information

| | |
|------------------|--|
| Applicant Name | Worldlinks Communications, L.L.C. |
| Applicant Add | 270 Center Drive Suite 230, Vernon Hills, IL. 60061 |
| Manufacturer | SHENZHEN NEWCHABRIDGE COMMUNICATION CO.,LTD |
| Manufacturer Add | New Bridge Industrial Park, Baolong Six Road, Baolong Industrial City, Longgang District, Shenzhen |

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 |

| | |
|-------------------------------|---|
| Description of EUT: | RedDot Phone |
| Main Model: | R50 |
| Serial Model: | N/A |
| Date EUT received: | August 24, 2015 |
| Test Date(s): | August 24 to September 24, 2015 |
| Antenna Gain: | GSM850: 0.37 dBi PCS1900: 1.01 dBi UMTS-FDD Band V: 0.37 dBi UMTS-FDD Band II: 1.01 dBi Bluetooth/BLE: 1.34 dBi WIFI: 1.34 dBi GPS: 0.46 dBi |
| Type of Modulation: | GSM / GPRS: GMSK EGPRS: GMSK UMTS-FDD: QPSK, 16QAM 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, π /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 UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 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 GPS RX: 1575.42 MHz |

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| | |
|-----------------------------|-------------------------------------|
| Number of Channels: | GSM 850: 124CH |
| | PCS1900: 299CH |
| | UMTS-FDD Band V : 102CH |
| | UMTS-FDD Band II : 277CH |
| | WIFI :802.11b/g/n(20M): 11CH |
| | WIFI :802.11n(40M): 7CH |
| | Bluetooth: 79CH |
| | BLE: 40CH |
| Port: | GPS:1CH |
| | |
| | Power Port, Earphone Port, USB Port |
| | |
| | Battery: |
| | Model:R50 |
| | Spec: 2200mAh(9.57Wh) |
| | Limited Charging Voltage: 4.35V |
| Input Power: | Adapter: |
| | Model:HJ-0501000 |
| | Input: 100-240V; 50/60Hz; 0.15A |
| | Output: DC 5.0V,1000mA |
| | |
| Trade Name : | N/A |
| GPRS/EGPRS Multi-slot class | 8/10/12 |
| FCC ID: | 2ADNIR50 |

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 | 1.918 | 2±1 | 3 | 1.995 | 0.62 | 3 |
| | Mid | 2441 | 2.797 | 2±1 | 3 | 1.995 | 0.62 | 3 |
| | High | 2480 | 2.639 | 2±1 | 3 | 1.995 | 0.63 | 3 |
| π /4 DQPSK | Low | 2402 | 1.855 | 2±1 | 3 | 1.995 | 0.62 | 3 |
| | Mid | 2441 | 2.716 | 2±1 | 3 | 1.995 | 0.62 | 3 |
| | High | 2480 | 2.581 | 2±1 | 3 | 1.995 | 0.63 | 3 |
| 8-DPSK | Low | 2402 | 2.018 | 2±1 | 3 | 1.995 | 0.62 | 3 |
| | Mid | 2441 | 2.922 | 2±1 | 3 | 1.995 | 0.62 | 3 |
| | High | 2480 | 2.762 | 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 | 8.69 | 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 | 8.50 | 8.5±1 | 9.5 | 8.913 | 2.80 | 3 |
| 802.11g | Low | 2412 | 9.03 | 8.5±1 | 9.5 | 8.913 | 2.77 | 3 |
| | Mid | 2437 | 9.05 | 8.5±1 | 9.5 | 8.913 | 2.78 | 3 |
| | High | 2462 | 8.63 | 8.5±1 | 9.5 | 8.913 | 2.80 | 3 |
| 802.11n (20M) | Low | 2412 | 8.70 | 8.5±1 | 8.5 | 7.079 | 2.20 | 3 |
| | Mid | 2437 | 9.06 | 8.5±1 | 9.5 | 8.913 | 2.78 | 3 |
| | High | 2462 | 8.53 | 8.5±1 | 9.5 | 8.913 | 2.80 | 3 |
| 802.11n (40M) | Low | 2422 | 9.11 | 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 | 2452 | 8.42 | 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 | -5.913 | -5±1 | -4 | 0.398 | 0.12 | 3 |
| | Mid | 2440 | -5.194 | -5±1 | -4 | 0.398 | 0.12 | 3 |
| | High | 2480 | -5.414 | -5±1 | -4 | 0.398 | 0.13 | 3 |

Result: Compliance

No SAR measurement is required.