RF EXPOSURE REPORT

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Report No.: 15070121-FCC-H2 Rev2

Supersede Report No.: 15070121-FCC-H2 Rev1

Applicant	Worldlinks Communications, L.L.C.
Product Name	PHONE
Model No.	R50S
Serial No.	N/A
Test Standard	FCC 2.1093
Test Date	March 04, 2015
Issue Date	March 21, 2015
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Winnie Zhang	Alex Liu	
Winnie Zhang **Test Engineer**	**Alex Liu** **Checked By**	

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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
15070121-FCC-H2	Original	NONE	March 12, 2015
15070121-FCC-H2 Rev1	Version 1	Update Battery Information	March 17, 2015
15070121-FCC-H2 Rev2	Version 2	Added LTE Band 7 Information	March 21, 2015

2. Customer information

Applicant Name	Worldlinks Communications, L.L.C.
Applicant Add	270 Center Drive Suite 230, Vernon Hills, IL. 60061
Manufacturer	Shenzhen VSDREAM Technology Co., Ltd
Manufacturer Add	4F, Headquarters Building, zhonghaixin Science&Technology Park, Bulan Road, Buji Ave, Longgang Dist., Shenzhen, Guangdong, 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 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:	PHONE
Main Model:	R50S
Serial Model:	N/A
Date EUT received:	February 12, 2015
Test Date(s):	March 04, 2015
Antenna Gain:	GSM850: 0.13 dBi PCS1900: 0.77 dBi UMTS-FDD Band 5: 0.11 dBi UMTS-FDD Band 2: 0.73 dBi UMTS-FDD Band 4: 0.52 dBi LTE Band 2: 0.81 dBi LTE Band 4: 0.55 dBi LTE Band 5: 0.27 dBi LTE Band 7: 1.01 dBi LTE Band 17: -1.23 dBi Bluetooth/BLE/WIFI: 1.15 dBi
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK UMTS-FDD: QPSK LTE Band: QPSK, 16QAM 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, π /4DQPSK, 8DPSK BLE: GFSK
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 5 TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz UMTS-FDD Band 2 TX:1852.4 ~ 1907.6 MHz; RX: 1932.4 ~ 1987.6 MHz UMTS-FDD Band 4 TX :1712.4 ~ 1752.6 MHz; RX : 2112.4 ~ 2152.6 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 17 TX: 706.5 ~ 713.5 MHz; RX : 736.5 ~ 743.5 MHz WIFI:802.11b/g/n(20M): 2412-2462 MHz WIFI: 802.11n(40M): 2422-2452 MHz Bluetooth& BLE: 2402-2480 MHz
Port:	Power Port, Earphone Port, USB Port
Input Power:	Battery: Model: 5MQ2 Spec: 3.7V 2000mAh Limited charger voltage: 4.2V Adapter: Model: KA25-0501000US Input: AC 100-240V; 50/60Hz 0.25A Output: DC 5.0V; 1000mA
Trade Name :	REDDOTMOBILE
GPRS/EGPRS Multi-slot class	8/10/12
FCC ID:	2ADNIR50S

5. FCC §2.1093 - Maximum Permissible exposure

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

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	-7.507	-7.5±1	-6.5	0.22	0.07	3
	Mid	2440	**-5.835**	-6.0±1	-5.0	0.32	0.10	3
	High	2480	-7.362	-7.5±1	-6.5	0.22	0.07	3

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	-0.626	-0.5±1	0.5	1.12	0.35	3
	Mid	2441	1.91	1.5±1	2.5	1.78	0.56	3
	High	2480	-0.565	-0.5±1	0.5	1.12	0.35	3
π /4 DQPSK	Low	2402	-0.846	-0.5±1	0.5	1.12	0.35	3
	Mid	2441	1.562	1.5±1	2.5	1.78	0.56	3
	High	2480	-0.854	-0.5±1	0.5	1.12	0.35	3
8-DPSK	Low	2402	-0.784	-0.5±1	0.5	1.12	0.35	3
	Mid	2441	1.691	1.5±1	2.5	1.78	0.56	3
	High	2480	-0.724	-0.5±1	0.5	1.12	0.35	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	8.22	8.5±1	9.5	8.91	2.77	3
	Mid	2437	**9.35**	8.5±1	9.5	8.91	2.78	3
	High	2462	9.02	8.5±1	9.5	8.91	2.80	3
802.11g	Low	2412	8.25	8.5±1	9.5	8.91	2.77	3
	Mid	2437	8.83	8.5±1	9.5	8.91	2.78	3
	High	2462	**9.38**	8.5±1	9.5	8.91	2.80	3
802.11n (20M)	Low	2412	7.61	8.5±1	9.5	8.91	2.77	3
	Mid	2437	7.55	8.5±1	9.5	8.91	2.78	3
	High	2462	**8.72**	8.5±1	9.5	8.91	2.80	3
802.11n (40M)	Low	2422	5.07	5.5±1	6.5	4.47	1.39	3
	Mid	2437	**7.72**	8.5±1	9.5	8.91	2.78	3
	High	2452	6.27	5.5±1	6.5	4.47	1.40	3

Result: Compliance

No SAR measurement is required.