# RF EXPOSURE REPORT



Report No.: Q181101S008-FCC-H

Supersede Report No.: N/A

Applicant	Cedar Kingdom Corporation Limited			
Product Name	Mobile Phone			
Model No.	V501C			
Serial No.	N/A			
Test Standard	FCC 2.109	3		
Test Date	November	November 06 to 25, 2018		
Issue Date	December 03, 2018			
Test Result	Pass Fail			
Equipment complied with the specification				
Equipment did not comply with the specification				
Janan Liona		David Huang		
Aaron Liang Test Engineer		David Huang 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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Test Report	Q181101S008-FCC-H
Page	2 of 10

### **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



Test Report	Q181101S008-FCC-H
Page	3 of 10

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Test Report	Q181101S008-FCC-H
Page	4 of 10

# **CONTENTS**

1.	REPORT REVISION HISTORY	5
2.	CUSTOMER INFORMATION	5
3.	TEST SITE INFORMATION	.5
4.	EQUIPMENT UNDER TEST (EUT) INFORMATION	.6
5.	FCC §2.1093 - RADIOFREQUENCY RADIATION EXPOSURE EVALUATION: PORTABLE DEVICES	.8
5.1	RF EXPOSURE	.8
5.2	TEST RESULT	.9



Test Report	Q181101S008-FCC-H
Page	5 of 10

# 1. Report Revision History

Report No.	Report Version	Description	Issue Date
Q181101S008-FCC-H	NONE	Original	December 03, 2018

# 2. Customer information

Applicant Name	Cedar Kingdom Corporation Limited
Applicant Add	11/F, AXA Centre 151 Gloucester Road, Wanchai, Hong Kong
Manufacturer	Cedar Kingdom Corporation Limited
Manufacturer Add	11/F, AXA Centre 151 Gloucester Road, Wanchai, Hong Kong

# 3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES	
Lab performing tools	· · · · · · · · · · · · · · · · · · ·	
	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park	
Lab Address	South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China	
	518108	
FCC Test Site No.	535293	
IC Test Site No.	4842E-1	
Test Software	Radiated Emission Program-To Shenzhen v2.0	



Test Report	Q181101S008-FCC-H
Page	6 of 10

#### 4. Equipment under Test (EUT) Information

Description of EUT: Mobile Phone

Main Model: V501C

Serial Model: N/A

Date EUT received: November 11, 2018

Test Date(s): November 06 to 25, 2018

GSM850: -1.12dBi PCS1900: -1.45dBi

UMTS-FDD Band V: -1.12dBi

Antenna Gain: UMTS-FDD Band II: -1.45dBi

WIFI: -2.03dBi

Bluetooth/BLE: -2.06dBi

GPS: -1.56dBi

Antenna Type: PIFA Antenna

GSM / GPRS: GMSK

EGPRS: GMSK

UMTS-FDD: QPSK

Type of Modulation: 802.11b/g/n: DSSS, OFDM

Bluetooth: GFSK, π /4DQPSK, 8DPSK

BLE: GFSK GPS:BPSK

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;

RF Operating Frequency (ies): 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: 1575.42 MHz



Test Report	Q181101S008-FCC-H
Page	7 of 10

GSM 850: 124CH PCS1900: 299CH

UMTS-FDD Band V: 102CH

UMTS-FDD Band II: 277CH

Number of Channels: WIFI:802.11b/g/n(20M): 11CH

WIFI:802.11n(40M): 7CH

Bluetooth: 79CH

BLE: 40CH GPS:1CH

Port: Please refer to the user's manual

Adapter:

Model: V-501C

Input: AC100-240V~50/60Hz,150mA

Output: DC 5.0V, 1A

Input Power: Battery:

Model: V-501C

Spec: 3.8V, 2200mAh/8.36Wh Limited charge voltage: 4.35

Trade Name: **VIRZO** 

FCC ID: 2AKQUVZCKV501C



Test Report	Q181101S008-FCC-H
Page	8 of 10

# 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)]  $\cdot [\sqrt{f_{(GHz)}}] \le 3.0$  for 1-g SAR and  $\le 7.5$  for 10-g extremity SAR, <sup>16</sup> where

- f<sub>(GHz)</sub> 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  $\leq 5$  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



Test Report	Q181101S008-FCC-H
Page	9 of 10

### 5.2 Test Result

#### WIFI Mode:

Modulation	СН	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
	Low	2412	8.83	8±1	9	7.943	2.47	3
802.11b	Mid	2437	8.55	8±1	9	7.943	2.48	3
	High	2462	8.30	8±1	9	7.943	2.49	3
802.11g	Low	2412	9.14	8.6±1	9.6	9.120	2.83	3
	Mid	2437	9.42	8.6±1	9.6	9.120	2.85	3
	High	2462	9.01	8.6±1	9.6	9.120	2.86	3
000 445	Low	2412	9.04	8.6±1	9.6	9.120	2.83	3
802.11n (20M)	Mid	2437	9.42	8.6±1	9.6	9.120	2.85	3
	High	2462	9.09	8.6±1	9.6	9.120	2.86	3
802.11n (40M)	Low	2422	9.39	8.6±1	9.6	9.120	2.84	3
	Mid	2437	9.25	8.6±1	9.6	9.120	2.85	3
	High	2452	9.44	8.6±1	9.6	9.120	2.86	3

#### **Bluetooth Mode:**

Modulation	СН	Freque ncy	Conducted Power	Tune Up Power	Max Tune Up Power	Max Tune Up Power	Result	Limit
	<b>.</b>	(MHz)	(dBm)	(dBm)	(dBm)	(mW)	T TOO GITT	
GFSK	Low	2402	1.651	2±1	3	1.995	0.62	3
	Mid	2441	2.250	2±1	3	1.995	0.62	3
	High	2480	2.421	2±1	3	1.995	0.63	3
π /4 DQPSK	Low	2402	1.295	2±1	3	1.995	0.62	3
	Mid	2441	1.835	2±1	3	1.995	0.62	3
	High	2480	2.072	2±1	3	1.995	0.63	3
8-DPSK	Low	2402	1.368	2±1	3	1.995	0.62	3
	Mid	2441	1.934	2±1	3	1.995	0.62	3
	High	2480	2.187	2±1	3	1.995	0.63	3



Test Report	Q181101S008-FCC-H
Page	10 of 10

#### **BLE Mode:**

Modulation	СН	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	1.106	2±1	3	1.995	0.62	3
	Mid	2440	1.729	2±1	3	1.995	0.62	3
	High	2480	1.990	2±1	3	1.995	0.63	3

Result: Compliance

No SAR measurement is required.