

RF EXPOSURE REPORT



Report No.: 15050047-FCC-H2

Supersede Report No.: N/A

Applicant	Collage Investments LLC.	
Product Name	Mobile Phone	
Model No.	LK500	
Serial No.	N/A	
Test Standard	FCC 2.1093:2014	
Test Date	October 13 to November 02, 2015	
Issue Date	November 03, 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"/>		
Winnie Zhang	David Huang	
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

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China 518108

Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn

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
15050047-FCC-H2	NONE	Original	November 03, 2015

2. Customer information

Applicant Name	Collage Investments LLC.
Applicant Add	11437 NW 34 STREET Doral Florida United States 33178
Manufacturer	Collage Investments LLC.
Manufacturer Add	11437 NW 34 STREET Doral Florida United States 33178

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:	Mobile Phone
Main Model:	LK500
Serial Model:	N/A
Date EUT received:	October 12, 2015
Test Date(s):	October 13 to November 02, 2015
Antenna Gain:	GSM850:0.8dBi PCS1900:1.5dBi UMTS-FDD Band II : 1.5dBi Bluetooth:1.5dBi
Type of Modulation:	GSM / GPRS: GMSK Bluetooth: GFSK, $\pi/4$ DQPSK, 8DPSK UMTS-FDD: QPSK, 16QAM
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 Bluetooth: 2402-2480 MHz UMTS-FDD Band II TX: 1852.4 ~ 1907.6 MHz; RX: 1932.4 ~ 1987.6 MHz
Number of Channels:	GSM 850: 124CH PCS1900: 299CH UMTS-FDD Band II : 277CH Bluetooth: 79CH
Port:	Earphone Port, USB Port
Input Power:	Adapter: Model:LK500 Input: AC 100-240V; 50/60Hz;0.15A Output: DC5.0V;500mA

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Battery:
Model: LK500
Spec: DC3.7V, 800mAh, 2.96Wh
Limited charger voltage: 4.2V

Trade Name : LIKUID

GPRS Multi-slot class 8/10/12

FCC ID: GAO- LK500

Date EUT received: October 12, 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* ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{16}$ 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	1.065	1±1	2	1.585	0.49	3
	Mid	2441	0.790	1±1	2	1.585	0.50	3
	High	2480	1.886	1±1	2	1.585	0.50	3
$\pi/4$ DQPSK	Low	2402	1.141	1±1	2	1.585	0.49	3
	Mid	2441	0.878	1±1	2	1.585	0.50	3
	High	2480	1.970	1±1	2	1.585	0.50	3
8-DPSK	Low	2402	1.212	1±1	2	1.585	0.49	3
	Mid	2441	0.946	1±1	2	1.585	0.50	3
	High	2480	1.945	1±1	2	1.585	0.50	3

Result: Compliance

No SAR measurement is required.