RF EXPOSURE REPORT

Report No.: 16071332-FCC-H2

Supersede Report No.: N/A

Applicant	BLU Products, Inc.
Product Name	Mobile Phone
Model No.	GRAND X
Serial No.	N/A
Test Standard	FCC 2.1093:2015
Test Date	December 07 to 20, 2016
Issue Date	December 21, 2016
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Loren Luo	David Huang	
Loren Luo 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

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

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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
16071332-FCC-H2	NONE	Original	December 21, 2016

2. Customer information

Applicant Name	BLU Products, Inc.
Applicant Add	10814 NW 33rd St # 100 Doral, FL 33172
Manufacturer	BLU Products, Inc.
Manufacturer Add	10814 NW 33rd St # 100 Doral, FL 33172

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:	GRAND X
Serial Model:	N/A
Date EUT received:	December 06, 2016
Test Date(s):	December 07 to 20, 2016
Antenna Gain:	GSM850: -1.0dBi PCS1900:-0.6dBi UMTS-FDD Band V: -0.6dBi UMTS-FDD Band IV: -1.0dBi UMTS-FDD Band II: -1.0dBi WIFI: -1.0dBi Bluetooth/BLE: -1.0dBi GPS: -1.0dBi
Antenna Type:	GSM/PCS/UMTS-FDD :PIFA antenna WIFI/BT/GPS : Metallic Antenna
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK,8PSK UMTS-FDD: QPSK 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, π /4DQPSK, 8DPSK BLE: GFSK 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 IV TX:1712.4 ~ 1752.6 MHz; RX : 2112.4 ~ 2152.6 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: 1575.42 MHz
Number of Channels:	GSM 850: 124CH PCS1900: 299CH UMTS-FDD Band V: 102CH UMTS-FDD Band IV: 202CH UMTS-FDD Band II: 277CH WIFI :802.11b/g/n(20M): 11CH WIFI :802.11n(40M): 7CH Bluetooth: 79CH BLE: 40CH GPS:1CH
Port:	USB Port, Earphone Port
Input Power:	Adapter: Model: US-ZC-1005 Input: AC100-240V~50/60Hz,0.4A Output: DC 5.0V,1.0A Battery: Model:C806239220L Spec: 3.8V,2200mAh, 8.36Wh
Trade Name :	BLU
GPRS/EGPRS Multi-slot class	8/10/12
FCC ID:	YHLBLUGRANDX

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	Frequency (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	6.071	6±1	7	5.012	1.55	3
	Mid	2441	**6.449**	6±1	7	5.012	1.57	3
	High	2480	6.173	6±1	7	5.012	1.58	3
π /4 DQPSK	Low	2402	5.836	5.5±1	6.5	4.467	1.38	3
	Mid	2441	**5.896**	5.5±1	6.5	4.467	1.40	3
	High	2480	5.454	5.5±1	6.5	4.467	1.41	3
8-DPSK	Low	2402	5.849	5.5±1	6.5	4.467	1.38	3
	Mid	2441	**6.197**	5.5±1	6.5	4.467	1.40	3
	High	2480	5.536	5.5±1	6.5	4.467	1.41	3

WIFI Mode:

Modulation	CH	Frequency (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
802.11b	Low	2412	8.32	8.5±1	9.5	8.913	2.77	3
	Mid	2437	8.65	8.5±1	9.5	8.913	2.78	3
	High	2462	**8.68**	8.5±1	9.5	8.913	2.80	3
802.11g	Low	2412	8.38	8.5±1	9.5	8.913	2.77	3
	Mid	2437	**8.68**	8.5±1	9.5	8.913	2.78	3
	High	2462	8.54	8.5±1	9.5	8.913	2.80	3
802.11n (20M)	Low	2412	8.13	8.5±1	9.5	8.913	2.77	3
	Mid	2437	8.33	8.5±1	9.5	8.913	2.78	3
	High	2462	**8.44**	8.5±1	9.5	8.913	2.80	3
802.11n (40M)	Low	2422	8.71	8.5±1	9.5	8.913	2.77	3
	Mid	2437	8.69	8.5±1	9.5	8.913	2.78	3
	High	2452	**8.91**	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	-2.748	-2±1	-1	0.794	0.25	3
	Mid	2440	**-1.873**	-2±1	-1	0.794	0.25	3
	High	2480	-2.288	-2±1	-1	0.794	0.25	3

Result: Compliance

No SAR measurement is required.