

# RF EXPOSURE REPORT



Report No.: 15050022-FCC-H

Applicant	b mobile HK Limited	
Product Name	Mobile Phone	
Model No.	AX600	
Serial No.	AX630	
Test Standard	FCC 2.1093	
Test Date	June 10 to June 24,2015	
Issue Date	June 24,2015	
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>Lucifer.He</i>	<i>David Huang</i>	
Lucifer.He Test Engineer	David Huang Checked By	
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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
15050022-FCC-H	NONE	Original	June 24, 2015

## 2. Customer information

Applicant Name	b mobile HK Limited
Applicant Add	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung;New Territories; Hong Kong
Manufacturer	b mobile HK Limited
Manufacturer Add	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung;New Territories; Hong Kong

## 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:	AX600
Serial Model:	AX630
Date EUT received:	June 10,2015
Antenna Gain:	GSM850: -1.18dBi PCS1900: 0.06dBi UMTS-FDD Band V: -1.79dBi UMTS-FDD Band II: -0.2dBi Bluetooth/BLE:0.03dBi WIFI: 0.03 dBi GPS: -1.76 dBi
Input Power:	Battery: Model: AX600 Spec: 3.8V, 1250 mAh 4.75Wh Adapter: Input: AC100 ~ 240V ,50/60Hz 0.15A Output:DC5.0V, 0.7A
Trade Name :	Bmobile
GPRS/EGPRS Multi-slot class	8/10/12
FCC ID:	ZSW-30-009

Type of Modulation: GSM / GPRS: GMSK  
EGPRS: GMSK, 8PSK  
UMTS-FDD: QPSK, 16QAM  
802.11b/g/n: DSSS, OFDM  
Bluetooth: GFSK,  $\pi$  /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 II TX:1852.4 ~ 1907.6 MHz;  
RX: 1932.4 ~ 1987.6 MHz  
WIFI:802.11b/g/n(20M): 2412-2472 MHz  
WIFI:802.11n(40M): 2422-2462 MHz  
Bluetooth& BLE: 2402-2480 MHz  
GPS RX:1575.42 MHz

Number of Channels: GSM 850: 124CH  
PCS1900: 299CH  
UMTS-FDD Band V : 102CH  
UMTS-FDD Band II : 277CH  
WIFI :802.11b/g/n(20M): 13CH  
WIFI :802.11n(40M): 9CH  
Bluetooth: 79CH  
BLE: 40CH

Port: Power Port, Earphone Port, USB Port

GPRS/EGPRS Multi-slot class 8/10/12

## 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*  $\leq 50$  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  $\leq 7.5$  for 10-g extremity SAR,<sup>16</sup> where

- $f_{(\text{GHz})}$  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  $< 5$  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	4.832	4.5±1	5.5	3.548	1.10	3
	Mid	2441	4.558	4.5±1	5.5	3.548	1.11	3
	High	2480	4.658	4.5±1	5.5	3.548	1.12	3
π /4 DQPSK	Low	2402	5.424	5±1	6	3.981	1.23	3
	Mid	2441	5.157	5±1	6	3.981	1.24	3
	High	2480	5.269	5±1	6	3.981	1.25	3
8-DPSK	Low	2402	<b>5.588</b>	5±1	6	3.981	1.23	3
	Mid	2441	5.352	5±1	6	3.981	1.24	3
	High	2480	5.46	5±1	6	3.981	1.25	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	8.90	8.5±1	9.5	8.91	2.77	3
	Mid	2437	<b>9.23</b>	8.5±1	9.5	8.91	2.78	3
	High	2462	9.12	8.5±1	9.5	8.91	2.80	3
802.11g	Low	2412	8.92	8.5±1	9.5	8.91	2.77	3
	Mid	2437	<b>9.05</b>	8.5±1	9.5	8.91	2.78	3
	High	2462	8.83	8.5±1	9.5	8.91	2.80	3
802.11n (20M)	Low	2412	8.85	8.5±1	9.5	8.91	2.77	3
	Mid	2437	<b>8.91</b>	8.5±1	9.5	8.91	2.78	3
	High	2462	8.41	8.5±1	9.5	8.91	2.80	3
802.11n (40M)	Low	2422	8.16	8.5±1	9.5	8.91	2.77	3
	Mid	2437	<b>8.44</b>	8.5±1	9.5	8.91	2.78	3
	High	2452	7.87	8.5±1	9.5	8.91	2.80	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	-3.62	-3±1	-2	0.100	0.03	3
	Mid	2440	<b>-2.993</b>	-3±1	-2	0.126	0.04	3
	High	2480	-3.267	-3±1	-2	0.158	0.05	3

**Result:** Compliance

No SAR measurement is required.