

# RF EXPOSURE REPORT



Report No.: 15070186-FCC-H2

Supersede Report No.: N/A

Applicant	MOBIWIRE MOBILES (NINGBO) CO.,LTD	
Product Name	Polaroid a4	
Model No.	H403	
Serial No.	N/A	
Test Standard	FCC 2.1093	
Test Date	March 26 to April 15, 2015	
Issue Date	May 05, 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	Chris You	
Winnie Zhang Test Engineer	Chris You 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

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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

Test Report	15070186-FCC-H2
Page	3 of 10

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## 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

## 1. Report Revision History

Report No.	Report Version	Description	Issue Date
15070186-FCC-H2	NONE	Original	May 05, 2015

## 2. Customer information

Applicant Name	MOBIWIRE MOBILES (NINGBO) CO.,LTD
Applicant Add	No.999,Dacheng East Road,Fenghua City,Zhejiang
Manufacturer	MOBIWIRE MOBILES (NINGBO) CO.,LTD
Manufacturer Add	No.999,Dacheng East Road,Fenghua City,Zhejiang

## 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: Polaroid a4

Main Model: H403

Serial Model: N/A

Date EUT received: March 24, 2015

Test Date(s): March 26 to April 15, 2015

UMTS-FDD Band V/GSM850: 0.5 dBi  
 PCS1900/UMTS-FDD Band II: 1.5 dBi

Antenna Gain: UMTS-FDD Band IV: 1.5 dBi  
 Bluetooth/BLE: -1 dBi  
 WIFI: -1 dBi

GSM / GPRS: GMSK  
 EGPRS: GMSK, 8PSK  
 UMTS-FDD: QPSK, 16QAM  
 802.11b/g/n: DSSS, OFDM  
 Bluetooth: GFSK,  $\pi/4$ DQPSK, 8DPSK  
 BLE: GFSK

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  
 UMTS-FDD Band IV TX: 1712.4 ~ 1752.6 MHz;  
 RX: 2112.4 ~ 2152.6 MHz  
 WIFI: 802.11b/g/n(20M): 2412-2462 MHz  
 WIFI: 802.11n(40M): 2422-2452 MHz  
 Bluetooth & BLE: 2402-2480 MHz

Number of Channels: GSM 850: 124CH  
 PCS1900: 299CH

Test Report	15070186-FCC-H2
Page	7 of 10

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UMTS-FDD Band V : 102CH  
UMTS-FDD Band II : 277CH  
UMTS-FDD Band IV: 202CH  
WIFI :802.11b/g/n(20M): 11CH  
WIFI :802.11n(40M): 7CH  
Bluetooth: 79CH  
BLE: 40CH

Port: Power Port, Earphone Port, USB Port

Battery:  
Model: H403  
Spec: 3.7V 1400mAh 5.18Wh

Input Power:  
Adapter:  
Model: A8+500550  
Input: AC 100-240V; 50/60Hz 0.2A Max  
Output: DC 5.0V; 550mA

Trade Name : Polariod

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

FCC ID: 2ADA4H403

## 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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{16}$  where

- $f_{(\text{GHz})}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before 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	-0.339	0.3±1	1.3	1.35	0.42	3
	Mid	2441	-0.133	0.3±1	1.3	1.35	0.42	3
	High	2480	<b>0.461</b>	0.3±1	1.3	1.35	0.43	3
$\pi/4$ DQPSK	Low	2402	-0.505	0.3±1	1.3	1.35	0.42	3
	Mid	2441	-0.260	0.3±1	1.3	1.35	0.42	3
	High	2480	<b>0.255</b>	0.3±1	1.3	1.35	0.43	3
8-DPSK	Low	2402	-0.436	0.3±1	1.3	1.35	0.42	3
	Mid	2441	-0.197	0.3±1	1.3	1.35	0.42	3
	High	2480	<b>0.360</b>	0.3±1	1.3	1.35	0.43	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	9.09	8.6±1	9.6	9.02	2.80	3
	Mid	2437	9.38	8.6±1	9.6	9.02	2.82	3
	High	2462	<b>9.42</b>	8.6±1	9.6	9.02	2.83	3
802.11g	Low	2412	9.13	8.6±1	9.6	9.02	2.80	3
	Mid	2437	9.44	8.6±1	9.6	9.02	2.82	3
	High	2462	<b>9.36</b>	8.6±1	9.6	9.02	2.83	3
802.11n (20M)	Low	2412	8.99	8.6±1	9.6	9.02	2.80	3
	Mid	2437	9.05	8.6±1	9.6	9.02	2.82	3
	High	2462	<b>9.53</b>	8.6±1	9.6	9.02	2.83	3
802.11n (40M)	Low	2422	<b>8.98</b>	8.6±1	9.6	9.02	2.80	3
	Mid	2437	8.35	8.6±1	9.6	9.02	2.82	3
	High	2452	8.51	8.6±1	9.6	9.02	2.83	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	-7.484	-7.0±1	-6.0	0.25	0.08	3
	Mid	2440	<b>-6.989</b>	-7.0±1	-6.0	0.25	0.08	3
	High	2480	-7.138	-7.0±1	-6.0	0.25	0.08	3

**Result:** Compliance

No SAR measurement is required.