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# RF EXPOSURE REPORT

**REPORT NO.:** SA130801C01D

**MODEL NO.:** HB-2000

**FCC ID:** OGSHB2000

**RECEIVED:** Aug. 01, 2013

**TESTED:** Aug. 20 ~ Oct. 18, 2013

**ISSUED:** Oct. 21, 2013

**APPLICANT:** Applied Wireless identifications Group Inc.

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**ISSUED BY:** Bureau Veritas Consumer Products Services  
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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA130801C01D	Original release.	Oct. 21, 2013

## 1. CERTIFICATION

**PRODUCT:** UHF RFID Handheld Reader/Writer

**MODEL NO.:** HB-2000

**BRAND:** AWID

**APPLICANT:** Applied Wireless identifications Group Inc.

**TESTED:** Aug. 20 ~ Oct. 18, 2013

**TEST SAMPLE:** ENGINEERING SAMPLE

**STANDARDS:** FCC Part 2 (Section 2.1093)

FCC OET Bulletin 65, Supplement C (01-01)

IEEE C95.1

The above equipment (model: HB-2000) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

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Sunt Lee / Specialist

**APPROVED BY :** Ken Liu , **DATE :** Oct. 21, 2013  
Ken Liu / Senior Manager

## 2. EVALUATION RESULT

### Following FCC KDB 447498 D01 “General SAR test exclusion guidance”

The corresponding SAR Exclusion Threshold condition, listed below:

- 1) 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.
  - 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.
- 2) At 100 MHz to 6 GHz and for test separation distances  $> 50$  mm, the SAR test exclusion threshold is determined according to the following:
  - a) [Threshold at 50 mm in step 1) + (test separation distance - 50mm) · (  $f(\text{MHz})/150$ )] mW, at 100MHz to 1500 MHz
  - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at  $> 1500$  MHz and  $\leq 6$  GHz
- 3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.
  - a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by  $[1 + \log(100/f(\text{MHz}))]$  for test separation distances  $> 50$  mm and  $< 200$  mm.
  - b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by  $\frac{1}{2}$  for test separation distances  $\leq 50$  mm.
  - c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

### 3. SAR TEST EXCLUSION THRESHOLDS

Maximum measured transmitter power:

Frequency (GHz)	Max. Power (mW)	Min. test separation distance (mm)	SAR test exclusion calculation value <sup>(NOTE 2)</sup>	1-g extremity SAR test exclusion thresholds	Result
2.402 ~ 2.480	0.368	5	0.114	3	Pass

**NOTE:** 1. The antenna type is Dielectric antenna with 2dBi gain.  
2. Calculate SAR test exclusion thresholds from condition “1” formulas.

### 4. CONCLUSION

Since Source-base time average power is below SAR test exclusion power thresholds, the SAR evaluation is not required.