

# RF Exposure Evaluation

## FCC ID: 2AMQR-101

### 1. Client Information

**Applicant** : Shenzhen Zhixingsheng Electronic Co., Ltd  
**Address** : 4/F, Building F.No.8 of East Zone, Shangxue Science Park,  
Bantian, Jihua Road, Longgang District, Shenzhen, China  
**Manufacturer** : Shenzhen Zhixingsheng Electronic Co., Ltd  
**Address** : 4/F, Building F.No.8 of East Zone, Shangxue Science Park,  
Bantian, Jihua Road, Longgang District, Shenzhen, China

### 2. General Description of EUT

|                               |                      |  |
|-------------------------------|----------------------|--|
| <b>EUT Name</b>               | :                    | Ads machine  |
| <b>Models No.</b>             | :                    | 7", 10.1", 13.3", 15.6", 18.5", 23.5", 27", 32"  |
| <b>Model Difference</b>       | :                    | All these models are identical in the same PCB, layout and electrical circuit, the only difference is CPU and boxes size.    |
| <b>Product Description</b>    | Operation Frequency: | 802.11b/g/n(HT20): 2412MHz~2462MHz<br>Bluetooth 4.0: 2402MHz~2480MHz   |
|                               | RF Output Power:     | 802.11b: 8.39dBm<br>802.11g: 7.59dBm<br>802.11n (HT20): 7.99dBm<br>GFSK: 1.653dBm<br>π/4-DQPSK: 0.508dBm<br>8-DPSK: 0.640dBm |
|                               | Antenna Gain:        | 4.3dBi FPC Antenna   |
| <b>Power Supply</b>           | :                    | DC Voltage Supply from AC/DC Adapter.  |
| <b>Power Rating</b>           | :                    | AC/DC Adapter (RSF-120A-1208000):<br>Input: AC 100~240V, 50/60Hz, 0.75A.<br>Output: DC 12V/3.0A.                             |
| <b>Connecting I/O Port(S)</b> | :                    | Please refer to the User's Manual  |

**Note:** More test information about the EUT please refer the RF Test Report.



## SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

- (1) Clause 4.3: General SAR test reduction and exclusion guidance

- Sub clause 4.31: Standalone SAR test exclusion considerations

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance  $\leq 5$  mm are determined by:

- [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)] \*  $[\sqrt{f_{\text{(GHz)}}}] \leq 3.0$  for 1-g SAR

- [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)] \*  $[\sqrt{f_{\text{(GHz)}}}] \leq 7.5.0$  for 10-g SAR

## 2. Calculation:

| Test separation: 5mm     |                       |                              |                                      |                                     |                   |                 |
|--------------------------|-----------------------|------------------------------|--------------------------------------|-------------------------------------|-------------------|-----------------|
| WiFi Mode(802.11b)       |                       |                              |                                      |                                     |                   |                 |
| Frequency (GHz)          | Conducted Power (dBm) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (dbm) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.412                    | 8.39                  | 8±1                          | 9                                    | 7.943                               | 2.467             | 3.0             |
| 2.437                    | 7.63                  | 8±1                          | 9                                    | 7.943                               | 2.480             | 3.0             |
| 2.462                    | 7.07                  | 8±1                          | 9                                    | 7.943                               | 2.493             | 3.0             |
| WiFi Mode(802.11g)       |                       |                              |                                      |                                     |                   |                 |
| Frequency (GHz)          | Conducted Power (dBm) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (dbm) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.412                    | 7.59                  | 7±1                          | 8                                    | 6.310                               | 1.960             | 3.0             |
| 2.437                    | 7.19                  | 7±1                          | 8                                    | 6.310                               | 1.970             | 3.0             |
| 2.462                    | 6.73                  | 7±1                          | 8                                    | 6.310                               | 1.980             | 3.0             |
| WiFi Mode(802.11n(HT20)) |                       |                              |                                      |                                     |                   |                 |
| Frequency (GHz)          | Conducted Power (dBm) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (dbm) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.412                    | 7.99                  | 7±1                          | 8                                    | 6.310                               | 1.960             | 3.0             |
| 2.437                    | 7.89                  | 7±1                          | 8                                    | 6.310                               | 1.970             | 3.0             |
| 2.462                    | 7.12                  | 7±1                          | 8                                    | 6.310                               | 1.980             | 3.0             |



| Test separation: 5mm             |                       |                              |                                      |                                     |                   |                 |
|----------------------------------|-----------------------|------------------------------|--------------------------------------|-------------------------------------|-------------------|-----------------|
| Bluetooth Mode (GFSK)            |                       |                              |                                      |                                     |                   |                 |
| Frequency (GHz)                  | Conducted Power (dBm) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (dbm) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.402                            | 1.653                 | $1.5 \pm 0.5$                | 2                                    | 1.585                               | 0.491             | 3.0             |
| 2.441                            | 1.490                 | $1.5 \pm 0.5$                | 2                                    | 1.585                               | 0.495             | 3.0             |
| 2.480                            | 1.058                 | $1.5 \pm 0.5$                | 2                                    | 1.585                               | <b>0.499</b>      | 3.0             |
| Bluetooth Mode ( $\pi/4$ -DQPSK) |                       |                              |                                      |                                     |                   |                 |
| Frequency (GHz)                  | Conducted Power (dBm) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (dbm) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.402                            | 0.506                 | $0.5 \pm 0.5$                | 1                                    | 1.259                               | 0.390             | 3.0             |
| 2.441                            | 0.508                 | $0.5 \pm 0.5$                | 1                                    | 1.259                               | 0.393             | 3.0             |
| 2.480                            | 0.189                 | $0.5 \pm 0.5$                | 1                                    | 1.259                               | 0.397             | 3.0             |
| Bluetooth Mode (8-DPSK)          |                       |                              |                                      |                                     |                   |                 |
| Frequency (GHz)                  | Conducted Power (dBm) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (dbm) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.402                            | 0.640                 | $0.5 \pm 0.5$                | 1                                    | 1.259                               | 0.390             | 3.0             |
| 2.441                            | 0.623                 | $0.5 \pm 0.5$                | 1                                    | 1.259                               | 0.393             | 3.0             |
| 2.480                            | 0.241                 | $0.5 \pm 0.5$                | 1                                    | 1.259                               | 0.397             | 3.0             |

| Test separation: 5mm             |                |                         |                 |
|----------------------------------|----------------|-------------------------|-----------------|
| The worst RF Exposure Evaluation |                |                         |                 |
| Worst Calculation Value          |                | Total Calculation Value | Threshold Value |
| WiFi Mode                        | Bluetooth Mode |                         |                 |
| 2.493                            | 0.499          | 2.992                   | 3.0             |

Because the WiFi and Bluetooth can be operated simultaneously, So the worst RF Exposure Evaluation is calculated as  $2.493 + 0.499 = 2.992 / \text{cm}^2 < \text{limit } 3.0$ , So standalone SAR measurements are not required.

-----END OF REPORT-----