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# RF Exposure Evaluation Report

**Report No.:** CQASZ20200901047E-02

**Applicant:** Shenzhen Leaderment Technology Co.,Ltd

**Address of Applicant:** 1st Floor, Building 24, Longcheng Industrial Zone, No. 39 Longguan West Road, Gaofeng Community, Dalang Street, Longhua District, Shenzhen

**Equipment Under Test (EUT):**

**EUT Name:** MAGIC PICTURE

**Model No.:** ATSS001, ATSS002, ATSS029, ATSS031, ATSS024, ATSS052, ATSS055, ATSS056

**Test Model No.:** ATSS055

**Brand Name:** Atumtek

**FCC ID:** 2ASUP-ATSS055

**Standards:** 47 CFR Part 1.1307

47 CFR Part 2.1093

KDB447498D01 General RF Exposure Guidance v06

**Date of Receipt:** 2020-09-10

**Date of Test:** 2020-09-10 to 2020-09-28

**Date of Issue:** 2020-09-28

**Test Result:** **PASS\***

**\*In the configuration tested, the EUT complied with the standards specified above**

**Tested By:**

*Martin Lee*  
( Martin Lee )

**Reviewed By:**

*Sheek Luo*  
( Sheek Luo )

**Approved By:**

*James*  
( Jack Ai )



## 1 Version

### Revision History Of Report

| Report No.           | Version | Description    | Issue Date |
|----------------------|---------|----------------|------------|
| CQASZ20200901047E-02 | Rev.01  | Initial report | 2020-09-28 |

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### 3 General Information

#### 3.1 Client Information

|                          |  |
|--------------------------|--|
| Applicant:               | Shenzhen Leaderment Technology Co.,Ltd   |
| Address of Applicant:    | 1st Floor, Building 24, Longcheng Industrial Zone, No. 39 Longguan West Road, Gaofeng Community, Dalang Street, Longhua District, Shenzhen |
| Manufacturer:            | Shenzhen Leaderment Technology Co.,Ltd   |
| Address of Manufacturer: | 1st Floor, Building 24, Longcheng Industrial Zone, No. 39 Longguan West Road, Gaofeng Community, Dalang Street, Longhua District, Shenzhen |

#### 3.2 General Description of EUT

|                                  |  |
|----------------------------------|--|
| Product Name:                    | MAGIC PICTURE  |
| Model No.:                       | ATSS001, ATSS002, ATSS029, ATSS031, ATSS024, ATSS052, ATSS055, ATSS056 |
| Test Model No.:                  | ATSS055  |
| Trade Mark:                      | Atumtek  |
| EUT Supports Radios application: | Bluetooth dual mode:<br>2402-2480MHz                                   |
| Hardware Version:                | N/A  |
| Software Version:                | N/A  |
| EUT Power Supply:                | lithium battery:DC3.7V, Charge by DC5V                                 |

#### 3.3 General Description of BLE

|                       |  |
|-----------------------|--|
| Operation Frequency:  | 2402MHz~2480MHz  |
| Bluetooth Version:    | V5.0   |
| Modulation Type:      | GFSK   |
| Transfer Rate:        | 1Mbps, 2Mbps   |
| Number of Channel:    | 40   |
| Sample Type:          | <input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location |
| Test Software of EUT: | Maxscend Bluetooth MP Toll(MXD2660x)1.17.08.13   |
| Antenna Type:         | PCB antenna  |
| Antenna Gain:         | 0 dBi  |

Note:

Model No.: ATSS001, ATSS002, ATSS029, ATSS031, ATSS024, ATSS052, ATSS055, ATSS056

Only the model ATSS055 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being model name.

## 4 SAR Evaluation

### 4.1 RF Exposure Compliance Requirement

#### 4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

##### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### 4.1.2 Limits

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:

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

$f(\text{GHz})$  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

### 4.1.3 EUT RF Exposure

#### 1) For BLE

##### Measurement Data

| GFSK mode(1Mbps) |                            |                   |       |                       |
|------------------|----------------------------|-------------------|-------|-----------------------|
| Test channel     | Peak Output Power<br>(dBm) | Tune up tolerance |       | Maximum tune-up Power |
|                  |                            | (dBm)             |       | (dBm)                 |
| Lowest(2402MHz)  | -13.05                     | -13±1             | -12   | 0.063                 |
| Middle(2440MHz)  | -12.4                      | -12±1             | -11   | 0.079                 |
| Highest(2480MHz) | -11.88                     | -12±1             | -11   | 0.079                 |
| GFSK mode(2Mbps) |                            |                   |       |                       |
| Test channel     | Peak Output Power<br>(dBm) | Tune up tolerance |       | Maximum tune-up Power |
|                  |                            | (dBm)             |       | (dBm)                 |
| Lowest(2402MHz)  | -12.94                     | -12.5±1           | -11.5 | 0.071                 |
| Middle(2440MHz)  | -12.23                     | -12.5±1           | -11.5 | 0.071                 |
| Highest(2480MHz) | -11.78                     | -12±1             | -11   | 0.079                 |

##### Worst case: GFSK mode(2Mbps)

| Channel              | Maximum Peak<br>Conducted<br>Output Power<br>(dBm) | Tune up<br>tolerance<br>(dBm) | Maximum tune-<br>up Power |       | Calculated<br>value | Exclusion<br>threshold |
|----------------------|--|-------------------------------|---------------------------|-------|---------------------|------------------------|
|                      |  |                               | (dBm)                     | (mW)  |                     |                        |
| Lowest<br>(2402MHz)  | -12.94   | -12.5±1                       | -11.5                     | 0.071 | 0.022               | 3.0                    |
| Middle<br>(2440MHz)  | -12.23   | -12.5±1                       | -11.5                     | 0.071 | 0.022               |                        |
| Highest<br>(2480MHz) | -11.78   | -12±1                         | -11                       | 0.079 | 0.025               |                        |

Conclusion: the calculated value ≤3.0, SAR is exempted.

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20200901047E-01  
BDR and BLE can not simultaneous transmitting at same time.