

# RF Exposure Evaluation Report

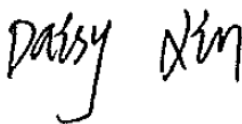
**Report No. :** CQASZ20190600458E-02  
**Applicant:** TOPWAY EM ENTERPRISE LTD.  
**Address of Applicant:** 8F BLOCK B BUILDING 6 BAONENG S & T PARK LONG HUA, SHENZHEN GD, China 518109

**Equipment Under Test (EUT):**

**Product:** Bluetooth Headphone  
**All Model No.:** MZX701, MZX701-GRY, MZX701-BLUE, MZX701-BLK, 17LY51  
**Test Model No.:** 17LY51  
**Brand Name:** Altec Lansing  
**FCC ID:** 2AKI8-MZX701  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06

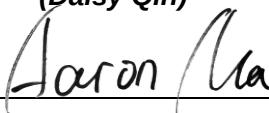
**Date of Receipt:** 2019-06-17  
**Date of Test:** 2019-06-17 to 2019-06-24  
**Date of Issue:** 2019-06-25  
**Test Result :** PASS\*

**Tested By:**



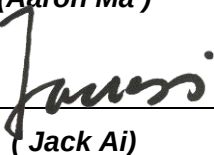
(Daisy Qin)

**Reviewed By:**



(Aaron Ma)

**Approved By:**

  
( Jack Ai)



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

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

## 1 Version

### Revision History Of Report

| Report No.           | Version | Description    | Issue Date |
|----------------------|---------|----------------|------------|
| CQASZ20190600458E-02 | Rev.01  | Initial report | 2019-06-25 |

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### 3 General Information

#### 3.1 Client Information

|                          |                                                                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Applicant:               | TOPWAY EM ENTERPRISE LTD.                                                                                                            |
| Address of Applicant:    | 8F BLOCK B BUILDING 6 BAONENG S & T PARK LONG HUA,<br>SHENZHEN GD, China 518109                                                      |
| Manufacturer:            | SHENZHEN JIA HUA LI DIAN ZI YOU XIAN GONG SI                                                                                         |
| Address of Manufacturer: | NO 101,201, BUILDING E, NEW INDUSTRIAL ZONE, SHENZHU ROAD,<br>LIUYUE SHENKENG VILLAGE, HENGGANG, LONGGANG<br>DISTRICT,SHENZHEN CHINA |

#### 3.2 General Description of EUT

|                       |                                                                                                                    |
|-----------------------|--------------------------------------------------------------------------------------------------------------------|
| Product Name:         | Bluetooth Headphone                                                                                                |
| All Model No.:        | MZX701, MZX701-GRY, MZX701-BLUE, MZX701-BLK, 17LY51                                                                |
| Test Model No.:       | 17LY51                                                                                                             |
| Trade Mark:           | Altec Lansing                                                                                                      |
| Hardware Version:     | V1.0                                                                                                               |
| Software Version:     | V1.0                                                                                                               |
| Operation Frequency:  | 2402MHz~2480MHz                                                                                                    |
| Bluetooth Version:    | V4.0                                                                                                               |
| Modulation Technique: | Frequency Hopping Spread Spectrum(FHSS)                                                                            |
| Modulation Type:      | GFSK, $\pi/4$ DQPSK, 8DPSK                                                                                         |
| Transfer Rate:        | 1Mbps/2Mbps/3Mbps                                                                                                  |
| Number of Channel:    | 79                                                                                                                 |
| Hopping Channel Type: | Adaptive Frequency Hopping systems                                                                                 |
| Product Type:         | <input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location |
| USB Changing cable:   | 30cm(shielded)                                                                                                     |
| AUX cable:            | 110cm(shielded)                                                                                                    |
| Test Software of EUT: | Blue test 3 (manufacturer declare )                                                                                |
| Antenna Type:         | PCB antenna                                                                                                        |
| Antenna Gain:         | 0dBi                                                                                                               |
| Power Supply:         | lithium battery:<br>DC3.7V, 250mAh, Charge by USB                                                                  |

Note:

All model: MZX701, MZX701-GRY, MZX701-BLUE, MZX701-BLK, 17LY51

Only the model 17LY51 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance and 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:

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{[\sqrt{f(\text{GHz})}]} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where} \right.$$

☐  $f(\text{GHz})$  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

#### Measurement Data

| GFSK mode        |                            |                            |                       |       |
|------------------|----------------------------|----------------------------|-----------------------|-------|
| Test channel     | Peak Output Power<br>(dBm) | Tune up tolerance<br>(dBm) | Maximum tune-up Power |       |
|                  |                            |                            | (dBm)                 | (mW)  |
| Lowest(2402MHz)  | 3.180                      | 3±1                        | 4                     | 2.512 |
| Middle(2441MHz)  | 5.810                      | 6±1                        | 7                     | 5.012 |
| Highest(2480MHz) | 6.790                      | 6±1                        | 7                     | 5.012 |
| π/4DQPSK mode    |                            |                            |                       |       |
| Test channel     | Peak Output Power<br>(dBm) | Tune up tolerance<br>(dBm) | Maximum tune-up Power |       |
|                  |                            |                            | (dBm)                 | (mW)  |
| Lowest(2402MHz)  | 0.960                      | 1±1                        | 2                     | 1.585 |
| Middle(2441MHz)  | 4.530                      | 5±1                        | 6                     | 3.981 |
| Highest(2480MHz) | 5.630                      | 5±1                        | 6                     | 3.981 |
| π/4DQPSK mode    |                            |                            |                       |       |
| Test channel     | Peak Output Power<br>(dBm) | Tune up tolerance<br>(dBm) | Maximum tune-up Power |       |
|                  |                            |                            | (dBm)                 | (mW)  |
| Lowest(2402MHz)  | 1.320                      | 1±1                        | 2                     | 1.585 |
| Middle(2441MHz)  | 4.770                      | 5±1                        | 6                     | 3.981 |
| Highest(2480MHz) | 5.900                      | 5±1                        | 6                     | 3.981 |

| Worst case: GFSK                                        |                                           |                         |                       |       |                  |                     |
|---------------------------------------------------------|-------------------------------------------|-------------------------|-----------------------|-------|------------------|---------------------|
| Channel                                                 | Maximum Peak Conducted Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power |       | Calculated value | Exclusion threshold |
|                                                         |                                           |                         | (dBm)                 | (mW)  |                  |                     |
| Lowest (2402MHz)                                        | 3.180                                     | 3±1                     | 4                     | 2.512 | 0.78             | 3.0                 |
| Middle (2441MHz)                                        | 5.810                                     | 6±1                     | 7                     | 5.012 | 1.57             |                     |
| Highest (2480MHz)                                       | 6.790                                     | 6±1                     | 7                     | 5.012 | 1.58             |                     |
| Conclusion: the calculated value ≤3.0, SAR is exempted. |                                           |                         |                       |       |                  |                     |

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20190600458E-01