



Test Report No.: FM190103N045

# RF EXPOSURE REPORT

|           |                                                                   |
|-----------|-------------------------------------------------------------------|
| Applicant | World of Watersports Limited                                      |
| Address   | Unit B, 3/F Eton Building, 288 Des Voeux Road, Central, Hong Kong |

|                                                                                                                                                                         |                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Manufacturer or Supplier                                                                                                                                                | Top Loyal Electronics Co.,Ltd                                                     |
| Address                                                                                                                                                                 | NO.22 GuangMing Ave, Dongcheng district, DongGuan city, GuangDong Province 523126 |
| Product                                                                                                                                                                 | WOW SOUND BUOY                                                                    |
| Brand Name                                                                                                                                                              | WORLD OF WATERSPORTS                                                              |
| Model                                                                                                                                                                   | 199000                                                                            |
| Additional Model & Model Difference                                                                                                                                     | 199010                                                                            |
| Date of tests                                                                                                                                                           | Jan. 03, 2019~ Jan. 30, 2019                                                      |
| <input checked="" type="checkbox"/> FCC Part 2 (Section 2.1093)<br><input checked="" type="checkbox"/> KDB 447498 D01<br><input checked="" type="checkbox"/> IEEE C95.1 |                                                                                   |

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

|                                                                                     |                                                                                                             |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Tested by Breeze Jiang<br>Project Engineer / EMC Department                         | Approved by Chris Chen<br>Manager / EMC Department                                                          |
|  | <br>Date: Mar. 07, 2019 |

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## RELEASE CONTROL RECORD

| ISSUE NO.    | REASON FOR CHANGE | DATE ISSUED   |
|--------------|-------------------|---------------|
| FM190103N045 | Original release  | Mar. 07, 2019 |

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## 1. CERTIFICATION

|                        |                              |
|------------------------|------------------------------|
| <b>FCC ID:</b>         | 2AK26-199000                 |
| <b>PRODUCT:</b>        | WOW SOUND BUOY               |
| <b>BRAND NAME:</b>     | WORLD OF WATERSPORTS         |
| <b>MODEL NO.:</b>      | 199000                       |
| <b>ADDITIONAL NO.:</b> | 199010                       |
| <b>TEST SAMPLE:</b>    | Engineering Sample           |
| <b>APPLICANT:</b>      | World of Watersports Limited |
| <b>STANDARDS:</b>      | FCC Part 2 (Section 2.1093)  |
|                        | KDB 447498 D01               |
|                        | IEEE C95.1                   |

**Remarks:** Additional model 199010 is identical with the test model 199000 except the model number for marketing purpose.

## 2. RF EXPOSURE DEFINE

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:

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

- $f(\text{GHz})$  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 - 50 mm)  $\cdot$  (f(MHz)/150)] mW, at 100MHz to 1500 MHz
  - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)  $\cdot$  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. CLASSIFICATION

The antenna of this product, under normal use condition, is at less than 20cm away from the body of the user. So, this device is classified as **Portable Device**.



#### 4. SAR TEST EXCLUSION THRESHOLDS

The tuned conducted Average Power (declared by client)

| Mode  | Frequency (MHz) | Target Power (dBm) | Tolerance (dBm) | Lower Tolerance (dBm) | Upper Tolerance (dBm) |
|-------|-----------------|--------------------|-----------------|-----------------------|-----------------------|
| GFSK  | 2402-2480       | -1                 | +2              | -3                    | 1                     |
| 8DPSK | 2402-2480       | -1                 | +2              | -3                    | 1                     |

The measured conducted Average Power

| Mode  | Frequency (MHz) | Averaged Power (dBm) |
|-------|-----------------|----------------------|
| GFSK  | 2402            | 0.98                 |
| 8DPSK | 2402            | -0.77                |

#### SAR Test Exclusion Thresholds

| Frequency (MHz) | Maximum source-based time averaged conducted output power (dBm) | Minimum separation distance (mm) | Result of Eq. 1 | Limit for 1-g SAR | Limit for 10-g extremity SAR | Verdict         |
|-----------------|-----------------------------------------------------------------|----------------------------------|-----------------|-------------------|------------------------------|-----------------|
| 2402-2480       | 1                                                               | 5                                | 0.39            | 3.0               | 7.5                          | Exempt from SAR |

#### Conclusion

Therefore this device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.