

# RF EXPOSURE REPORT

|           |                                                                                                            |
|-----------|------------------------------------------------------------------------------------------------------------|
| Applicant | Shantou Chenghai Huabo Smart Living Technology Co., Ltd                                                    |
| Address   | Next to Chengjiang Road, Dutou Village, Shanghua County, Chenghai District, Shantou City, Guangdong, China |

|                                      |                                                                                                               |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Manufacturer or Supplier             | Shantou Chenghai Huabo Smart Living Technology Co., Ltd                                                       |
| Address                              | Next to Chengjiang Road, Dutou Village, Shanghua County, Chenghai District, Shantou City, Guangdong, China    |
| Product                              | Toy RC Hydro Racer                                                                                            |
| Brand Name                           | Sharper Image                                                                                                 |
| Model                                | 1017332                                                                                                       |
| Additional Models & Model Difference | 1017936, HB2023S, 101XXXX (where XXX can be digits 0000-9999 which represent different customers), see item 1 |
| Date of tests                        | Oct. 11, 2023 ~ Nov. 01, 2023                                                                                 |

☒ FCC Part 2 (Section 2.1093)

☒ KDB 447498 D01 V06

☒ IEEE C95.1

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

|                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Tested by Loren Luo<br>Project Engineer / EMC Department                            | Approved by Glyn He<br>Assistant Manager / EMC Department                            |
|  |  |

Date: Nov. 29, 2023

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## RELEASE CONTROL RECORD

| ISSUE NO.       | REASON FOR CHANGE | DATE ISSUED   |
|-----------------|-------------------|---------------|
| FM2310WDG0007-2 | Original release  | Nov. 29, 2023 |

## 1. CERTIFICATION

|                        |                                                                                                  |
|------------------------|--------------------------------------------------------------------------------------------------|
| <b>FCC ID:</b>         | 2A4XIHB2023S24GR                                                                                 |
| <b>PRODUCT:</b>        | Toy RC Hydro Racer                                                                               |
| <b>BRAND NAME:</b>     | Sharper Image                                                                                    |
| <b>MODEL NO.:</b>      | 1017332                                                                                          |
| <b>ADDITIONAL NO.:</b> | 1017936,HB2023S, 101XXXX (where XXX can be digits 0000-9999 which represent different customers) |
| <b>APPLICANT:</b>      | Shantou Chenghai Huabo Smart Living Technology Co., Ltd                                          |
| <b>STANDARDS:</b>      | FCC Part 2 (Section 2.1093)                                                                      |
|                        | KDB 447498 D01 V06                                                                               |
|                        | IEEE C95.1                                                                                       |

Note: Additional models (see above table) are identical with the test model 1017332 except the color of the appearance and model number for trading 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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  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 - 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) |
|------|-----------------|--------------------|-----------------|-----------------------|-----------------------|
| TX   | 2410-2473       | -28                | +2              | -30                   | -26                   |

The measured conducted Average Power

| Mode | Frequency (MHz) | Averaged Power (dBuV/m) | Averaged Power (dBm) |
|------|-----------------|-------------------------|----------------------|
| TX   | 2410            | 67.40                   | -27.83               |

Note:

$$E = \frac{\sqrt{30 PG}}{d}$$

E = Electric field strength in V/m

$$V/m = 10^{(dBuV/m - 120)/20}$$

P = Power in Watts

G = Antenna gain in dBi

d = Measurement distance in metres

Power  $\approx$  0.001649 (mW)

$$dBm = 10 \cdot \log_{10}(0.001649) \approx -27.83 (dBm)$$

### 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         |
|-----------------|-----------------------------------------------------------------|----------------------------------|-----------------|-------------------|------------------------------|-----------------|
| 2410-2473       | -26                                                             | 5                                | 0.00078         | 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.