

## FCC RF EXPOSURE REPORT

DONG GUAN XING HUO GEAR CO., LTD

Smart Curtain Robot Remote Controler

Model Number: XH01-RC

FCC ID: 2A95AXH01-RC

|              |                                                                     |
|--------------|---------------------------------------------------------------------|
| Applicant:   | DONG GUAN XING HUO GEAR CO., LTD                                    |
| Address:     | No.13, Jiaoyitang Gem Road, Tangxia Town, Dongguan City,            |
|              | Guangdong Province, China                                           |
|              |                                                                     |
| Prepared By: | EST Technology Co., Ltd.                                            |
|              | Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China |
|              | Tel: 86-769-83081888-808                                            |

|                 |                             |
|-----------------|-----------------------------|
| Report Number:  | ESTE-R2301101               |
| Date of Test:   | Aug. 18, 2022~Jan. 31, 2023 |
| Date of Report: | Jan. 31, 2023               |

# 1. Applicable Standards

FCC Part 2(Section 2.1093)

FCC KDB 447498 D04 Interim General RF Exposure Guidance v01

## 2. Exposure Evaluation of Portable or Mobile Devices

Human exposure to RF emissions from portable devices (47 CFR §2.1093), as defined by the FCC, must be evaluated with respect to the FCC-adopted limits for SAR. Evaluation of mobile devices, as defined by the FCC, may also be performed with respect to SAR limits, but in such cases it is usually simpler and more cost-effective to evaluate compliance with respect to field strength or power density limits. For certain devices that are designed to be used in both mobile and portable configurations similar to those described in 47 CFR §2.1091(d)(4), such as certain desktop phones and wireless modem modules, compliance for mobile configurations is also satisfied when the same device is evaluated for SAR compliance in portable configurations.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and  $f$  is in GHz,  $d$  is the separation distance (cm), and  $ERP_{20 \text{ cm}}$  is per Formula (B.1). The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

| Frequency (MHz) | Distance (mm) |    |    |     |     |     |     |     |     |     |
|-----------------|---------------|----|----|-----|-----|-----|-----|-----|-----|-----|
|                 | 5             | 10 | 15 | 20  | 25  | 30  | 35  | 40  | 45  | 50  |
| 300             | 39            | 65 | 88 | 110 | 129 | 148 | 166 | 184 | 201 | 217 |
| 450             | 22            | 44 | 67 | 89  | 112 | 135 | 158 | 180 | 203 | 226 |
| 835             | 9             | 25 | 44 | 66  | 90  | 116 | 145 | 175 | 207 | 240 |
| 1900            | 3             | 12 | 26 | 44  | 66  | 92  | 122 | 157 | 195 | 236 |
| 2450            | 3             | 10 | 22 | 38  | 59  | 83  | 111 | 143 | 179 | 219 |
| 3600            | 2             | 8  | 18 | 32  | 49  | 71  | 96  | 125 | 158 | 195 |
| 5800            | 1             | 6  | 14 | 25  | 40  | 58  | 80  | 106 | 136 | 169 |

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 300 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.

### 3. Evaluation Results

Ant gain=4.88dBi

Ant numeric gain=3.076

Field strength = 86.68dBuV/m@3m

Limited= $2040 \cdot f \cdot (0.5/20)^x$ ,  $x = -\log(60/(2040 \cdot f \cdot \sqrt{f})) = 23.17\text{mW}$

EIRP =  $\{ [10^{(86.68/20)} / 10^6 \cdot 3]^2 / (30 \cdot 1) \} \cdot 1000\text{mW} = 0.1397\text{mW} < 23.17\text{mW}$

Note:

1. We choose  $f=0.43392\text{GHz}$  to calculate MPE limit as higher frequency will have lower MPE limits.
2. SAR Test Exclusion Thresholds is 23.17mW for separation distance 5mm. Therefore, SAR test is not required.

**End of Test Report**