



MRT Technology (Taiwan) Co., Ltd  
Phone: +886-3-3288388  
Fax: +886-3-3288918  
Web: [www.mrt-cert.com](http://www.mrt-cert.com)

Report No.: 2312TWO601-U2  
Report Version: 1.0  
Issue Date: 2024-02-01

## RF Exposure Evaluation

---

**FCC ID** : LZ6ALPHA6000  
**APPLICANT** : FOMOTECH INTERNATIONAL CORP.  
**Application Type** : Certification  
**Product** : industrial remote control  
**Model No.** : Alpha 6000  
**Brand Name** : FOMOTECH  
**FCC Rule Part(s)** : Part 2.1093 (Portable)  
**Received Date** : December 25, 2023

**Tested By** : *Kaunaz Lee*  
( Kaunaz Lee )  
**Reviewed By** : *Paddy Chen*  
( Paddy Chen )  
**Approved By** : *Chenz Ker*  
( Chenz Ker )



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

## Revision History

| Report No.    | Version | Description     | Issue Date | Note |
|---------------|---------|-----------------|------------|------|
| 2312TWO601-U2 | 1.0     | Original Report | 2024-02-01 |      |

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

|                    |                           |
|--------------------|---------------------------|
| Product Name       | industrial remote control |
| Model No.          | Alpha 6000                |
| Frequency Range    | 423.05 ~ 429.75 MHz       |
| Type of modulation | 2FSK                      |

## 2. RF Exposure Evaluation

### 2.1. FCC Limits

According to FCC KDB 447498 D04V01 - SAR-Based Exemption

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P<sub>th</sub> is given by Formula .

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

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<sub>20cm</sub> is per Formula.

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

The example values shown as below are for illustration only.

Example Power Thresholds (mW)

| Frequency (MHz) | Example Power Thresholds (mW) |    |    |    |     |     |     |     |     |     |     |
|-----------------|-------------------------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|
|                 | 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 |

Note: when 10-g extremity SAR applies, SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption thresholds.

## 2.2. IC Limits

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power. For controlled use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 5. For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

| Frequency (MHz) | Exemption Limits (mW)                 |                                 |                                 |                                 |                                        |
|-----------------|---------------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------------|
|                 | At separation distance of $\leq 5$ mm | At separation distance of 10 mm | At separation distance of 15 mm | At separation distance of 20 mm | At separation distance of 25 mm        |
| 300             | 71 mW                                 | 101 mW                          | 132 mW                          | 162 mW                          | 193 mW                                 |
| 450             | 52 mW                                 | 70 mW                           | 88 mW                           | 106 mW                          | 123 mW                                 |
| 835             | 17 mW                                 | 30 mW                           | 42 mW                           | 55 mW                           | 67 mW                                  |
| 1900            | 7 mW                                  | 10 mW                           | 18 mW                           | 34 mW                           | 60 mW                                  |
| 2450            | 4 mW                                  | 7 mW                            | 15 mW                           | 30 mW                           | 52 mW                                  |
| 3500            | 2 mW                                  | 6 mW                            | 16 mW                           | 32 mW                           | 55 mW                                  |
| 5800            | 1 mW                                  | 6 mW                            | 15 mW                           | 27 mW                           | 41 mW                                  |
| Frequency (MHz) | At separation distance of 30 mm       | At separation distance of 35 mm | At separation distance of 40 mm | At separation distance of 45 mm | At separation distance of $\geq 50$ mm |
| $\leq 300$      | 223 mW                                | 254 mW                          | 284 mW                          | 315 mW                          | 345 mW                                 |
| 450             | 141 mW                                | 159 mW                          | 177 mW                          | 195 mW                          | 213 mW                                 |
| 835             | 80 mW                                 | 92 mW                           | 105 mW                          | 117 mW                          | 130 mW                                 |
| 1900            | 99 mW                                 | 153 mW                          | 225 mW                          | 316 mW                          | 431 mW                                 |
| 2450            | 83 mW                                 | 123 mW                          | 173 mW                          | 235 mW                          | 309 mW                                 |
| 3500            | 86 mW                                 | 124 mW                          | 170 mW                          | 225 mW                          | 290 mW                                 |
| 5800            | 56 mW                                 | 71 mW                           | 85 mW                           | 97 mW                           | 106 mW                                 |

Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance.

### 2.3. Test Result of RF Exposure Evaluation

| Frequency Band (MHz) | E-field (dBuV/m) | EIRP (mW) | FCC SAR Test Exclusion Threshold (mW) | ISED SAR Test Exclusion Threshold (mW) |
|----------------------|------------------|-----------|---------------------------------------|----------------------------------------|
| 423.05 ~ 429.75      | 98.07            | 1.9236    | 22                                    | 52                                     |

So, this device can complies the SAR test exclusion.

\_\_\_\_\_ The End \_\_\_\_\_