

# RF EXPOSURE REPORT

|           |   |
|-----------|---|
| Applicant | DOUBLEEAGLE INDUSTRY (CHINA)LIMITED                                       |
| Address   | XINGDA INDUSTRIAL PARK, CHENGHAI, SHANTOU CITY, GUANGDONG PROVINCE, CHINA |

|                                     |   |
|-------------------------------------|---|
| Manufacturer or Supplier            | DOUBLEEAGLE INDUSTRY (CHINA)LIMITED                                       |
| Address                             | XINGDA INDUSTRIAL PARK, CHENGHAI, SHANTOU CITY, GUANGDONG PROVINCE, CHINA |
| Product                             | BUILDING BLOCK SERIES   |
| Brand Name                          | N/A   |
| Model                               | C51054W   |
| Additional Model & Model Difference | C61072W, C61076W, C82001W, etc.; see item 1                               |
| Date of tests                       | Apr. 18, 2023 ~ Apr. 20, 2023   |

☒ **FCC Part 2 (Section 2.1093)**

☒ **KDB 447498 D01**

☒ **IEEE C95.1**

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

Tested by Loren Luo  
Project Engineer / EMC Department

Approved by Glyn He  
Assistant Manager / EMC Department

*Loren*

*Glyn He*

Date: May 29, 2023

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Test Report No.: FM2303WDG0163

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## RELEASE CONTROL RECORD

| ISSUE NO.     | REASON FOR CHANGE | DATE ISSUED  |
|---------------|-------------------|--------------|
| FM2303WDG0163 | Original release  | May 29, 2023 |

## 1. CERTIFICATION

|                        |   |
|------------------------|---|
| <b>FCC ID:</b>         | 2AAFASY-C51054W-06  |
| <b>PRODUCT:</b>        | BUILDING BLOCK SERIES   |
| <b>BRAND NAME:</b>     | N/A   |
| <b>MODEL NO.:</b>      | C51054W   |
| <b>ADDITIONAL NO.:</b> | C61072W, C61076W, C82001W, C82002W, C82003W, C82004W, C82005W, C81024W, C81051W, C81052W, C81053W, C81054W, C81055W, C81056W, C81057W, C81058W, C81059W, C81060W, C81025W, C81026W, C81027W, C81028W, C81029W, C61061W, C66001W, C66002W, C66003W, C66005W, C66006W, C58001W, C58002W, C58003W, C58004W, C59001W, C59002W, C59003W, C59004W, C59005W, C59006W, C59007W, C71004W, C71005W, C71006W, C71021W, C71022W, C71023W, C53001W, C53002W, C53003W, C53004W, C53005W, C53011W, C53021W, C61031W, C51081W, C51082W, C51083W, C51084W, C51085W, C52030W, C52031W, C52032W, C52033W, C52034W, C52035W, C52036W, C52037W, C52038W, C52039W, C52040W, C55026W, C55027W, C55028W, C55029W, C56001W, C56002W, C56003W, C56004W, C66013W |
| <b>APPLICANT:</b>      | DOUBLEEAGLE INDUSTRY (CHINA)LIMITED   |
| <b>STANDARDS:</b>      | FCC Part 2 (Section 2.1093)   |
|                        | KDB 447498 D01  |
|                        | IEEE C95.1  |

NOTE: Additional models (see above table) are identical with the test model C51054W 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, 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) · (f(MHz)/150)] mW, at 100MHz to 1500 MHz
  - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 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   | 2426-2474       | -15                | +2              | -17                   | -13                   |

The measured conducted Average Power

| Mode | Frequency (MHz) | Averaged Power (dBuV/m) | Averaged Power (dBm) |
|------|-----------------|-------------------------|----------------------|
| TX   | 2474            | 79.70                   | -15.53               |

Note:

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

E =Electric field streng 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 ≈ 0.0280 (mW)

$$dBm = 10 \cdot \log_{10}(0.0280) \approx -15.53(dBm)$$

### 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         |
|-----------------|---|----------------------------------|-----------------|-------------------|------------------------------|-----------------|
| 2426-2474       | -13   | 5                                | 0.0158          | 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.