



Test Report No.: FM2403WDG0298





# 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                               | C61503W   |
| Additional Model & Model Difference | C52003W, C52004W, C52005W, etc.; see item 1                               |
| Date of tests                       | Apr. 11, 2024 ~ Apr. 16, 2024   |

- 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   |
|  | <br><br>Date: Jun. 17, 2024 |

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Bureau Veritas Shenzhen Co., Ltd.  
Dongguan Branch

No. 96, Guantai Road (Houjie Section), Houjie  
Town, Dongguan City, Guangdong Province.  
523942. People's Republic of China.

Tel: +86 769 8998 2098  
Fax: +86 769 8593 1080  
Email: [customerservice.dg@bureauveritas.com](mailto:customerservice.dg@bureauveritas.com)



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## TABLE OF CONTENTS

|  |   |
|--|---|
| RELEASE CONTROL RECORD .....           | 3 |
| 1. CERTIFICATION.....                  | 4 |
| 2. RF EXPOSURE DEFINE.....             | 5 |
| 3. CLASSIFICATION .....                | 5 |
| 4. SAR TEST EXCLUSION THRESHOLDS ..... | 6 |



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## RELEASE CONTROL RECORD

| ISSUE NO.     | REASON FOR CHANGE | DATE ISSUED   |
|---------------|-------------------|---------------|
| FM2403WDG0298 | Original release  | Jun. 17, 2024 |

**Bureau Veritas Shenzhen Co., Ltd.**  
**Dongguan Branch**

No. 96, Guantai Road (Houjie Section), Houjie  
Town, Dongguan City, Guangdong Province.  
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Email: [customerservice.dg@bureauveritas.com](mailto:customerservice.dg@bureauveritas.com)



# 1. CERTIFICATION

|                        |   |
|------------------------|---|
| <b>FCC ID:</b>         | 2AAFASY-C61503W-07  |
| <b>PRODUCT:</b>        | BUILDING BLOCK SERIES   |
| <b>BRAND NAME:</b>     | N/A   |
| <b>MODEL NO.:</b>      | C61503W   |
| <b>ADDITIONAL NO.:</b> | C52003W, C52004W, C52005W, C52006W, C52007W, C52008W, C52011W, C52012W, C52013W, C52014W, C52015W, C52016W, C52017W, C52018W, C52019W, C52020W, C52021W, C52022W, C52023W, C52024W, C52025W, C52026W, C52027W, C52028W, C52029W, C53001W, C53002W, C53003W, C53004W, C53005W, C53006W, C53007W, C53009W, C53010W, C53012W, C54001W, C54002W, C54003W, C54004W, C54005W, C54006W, C55000W, C55001W, C55002W, C55003W |
| <b>APPLICANT:</b>      | DOUBLEEAGLE INDUSTRY (CHINA)LIMITED   |
| <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 C61503W 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) · ( 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   | 2405-2475       | -37                | +2              | -39                   | -35                   |

The measured conducted Average Power

| Mode | Frequency (MHz) | Averaged Power (dBuV/m) | Averaged Power (dBm) |
|------|-----------------|-------------------------|----------------------|
| TX   | 2475            | 58.13                   | -37.10               |

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  $\approx$  0.000195 (mW)

$$dBm = 10 * \log_{10}(0.000195) \approx -37.10 (dBm)$$

### 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         |
|-----------------|---|----------------------------------|-----------------|-------------------|------------------------------|-----------------|
| 2405-2475       | -35   | 5                                | 0.0000995       | 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.