

RF Exposure Evaluation Report

Report Reference No..... : MTEB23070135-H

FCC ID..... : 2BB3K-90010R

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Date of issue.....: **June 26,2023**

Representative Laboratory Name.: **Shenzhen Most Technology Service Co., Ltd.**

Address.....: No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.

Applicant's name.....: **Jiangsu Dalen Electronic Co.,Ltd.**

Address.....: No.5,Baitan Road,Changshu High-tech Industrial Development Zone,Jiangsu Province, China

Test specification/ Standard.....: **47 CFR Part 1.1307**

47 CFR Part 2.1093

TRF Originator.....: Shenzhen Most Technology Service Co., Ltd.

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Test item description.....: **AERO 2.0 R/C DRONE**

Trade Mark.....: N/A

Manufacturer.....: NINGBO JIANGBEI ZHONGYUAN HOUSEHOLD INDUSTRIES &TRADING CO.,LTD.

Model/Type reference.....: SMPTC-90010R/SMPTC-90016R

Listed Models : N/A

Modulation Type.....: GFSK

Operation Frequency.....: From 2440MHz ~ 2468MHz

Hardware Version.....: SY-FY2035TX

Software Version.....: SY-FY2035TX

Rating.....: DC3.7V by Battery
DC5V(by USB)

Result.....: **PASS**

TEST REPORT

Equipment under Test : **AERO 2.0 R/C DRONE**

Model /Type : SMPTC-90010R/SMPTC-90016R

Listed Models : N/A

Remark : N/A

Applicant : **NINGBO JIANGBEI ZHONGYUAN HOUSEHOLD INDUSTRIES& TRADING CO.,LTD.**

Address : RM407-408,#2 BUILDING ,RIHU SHIMAO CENTER, WEST OF NORTH ,HUANCHENG ROAD,NINGBO,CHINA

Manufacturer : **NINGBO JIANGBEI ZHONGYUAN HOUSEHOLD INDUSTRIES& TRADING CO.,LTD.**

Address : RM407-408,#2 BUILDING ,RIHU SHIMAO CENTER, WEST OF NORTH ,HUANCHENG ROAD,NINGBO,CHINA

| | |
|---------------------|-------------|
| Test Result: | PASS |
|---------------------|-------------|

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

| Revision | Issue Date | Revisions | Revised By |
|----------|------------|---------------|------------|
| 00 | 2023.06.26 | Initial Issue | Alisa Luo |
| | | | |
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2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 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

2.1.3 EUT RF Exposure

$$\text{EIRP} = \text{PT} \times \text{GT} = (E \times D)^2 / 30$$

where:

PT = transmitter output power in watts,
 GT = numeric gain of the transmitting antenna (unitless),
 E = electric field strength in V/m, $10^{(\text{dB}\mu\text{V}/\text{m})/20}/10^6$,
 D = measurement distance in meters (m)---3m,
 So $\text{PT} = (E \times D)^2 / 30 / \text{GT}$

The worst case (refer to report **MTEB23070135-R**) is below:

| Antenna polarization: Horizontal | | |
|----------------------------------|----------------|--------------|
| Frequency (MHz) | Level (dBuV/m) | Polarization |
| 2440 | 82.58 | Peak |
| 2440 | 78.65 | Average |

| Antenna polarization: Vertical | | |
|--------------------------------|----------------|--------------|
| Frequency (MHz) | Level (dBuV/m) | Polarization |
| 2440 | 87.92 | Peak |
| 2440 | 75.78 | Average |

For 2440MHz wireless:

Field strength=87.92 dBuV/m

Ant gain:0dBi;so Ant numeric gain=1

$$\text{EIRP} = \text{PT} \times \text{GT} = (E \times D)^2 / 30 = (10^{(\text{dB}\mu\text{V}/\text{m})/20}/10^6 \times 3)^2 / 30 = 0.00019$$

$$\text{So } \text{PT} = \text{EIRP}/\text{GT} = 0.00019 \text{W} = 0.19 \text{mW}$$

$$\text{So}(0.19 \text{mW}/5 \text{mm}) \times \sqrt{2.44 \text{GHz}} = 0.063$$

exclusion=0.063<3.0 for 1-g SAR

So the SAR report is not required.

.....THE END OF REPORT.....